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THE TWELFTH YEARBOOK

OF THE

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

PART I

THE SUPERVISION OF CITY SCHOOLS

BY
FRANKLIN BOBBITT, PH.D.
*Instructor in Educational Administration
in the University of Chicago*

Supplemented by JOHN W. HALL
Bibliography by J. D. WOLCOTT

Edited by the Secretary

THIS YEARBOOK WILL BE DISCUSSED AT THE PHILADELPHIA MEETING OF THE
NATIONAL SOCIETY, MONDAY, FEBRUARY 24, 1913, 8:00 P.M.

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SOME GENERAL PRINCIPLES OF MANAGEMENT APPLIED TO THE PROBLEMS OF CITY-SCHOOL SYSTEMS

FRANKLIN BOBBITT

Instructor in Educational Administration, University of Chicago

I. INTRODUCTION

At a time when so much discussion is being given to the possibilities of "scientific management" in the world of material production, it seems desirable that the principles of this more effective form of management be examined in order to ascertain the possibility of applying them to the problems of educational management and supervision. This paper attempts to suggest what some of the principles would probably mean when applied to the labors of our field.

Management, direction, and supervision are functions of all co-operative labor. While men act singly, direction can find no place; but when men co-operate for common ends, one must direct the diverse labors of the group in order to secure unity and effectiveness. The tasks of direction arose with the rise of human organization. Directive labors differ naturally from group to group in their specific details; but whether the organization be for commerce or for manufacture, philanthropy or education, transportation or government, it is coming to appear that the fundamental tasks of management, direction, and supervision are always about the same.

In any organization, the directive and supervisory members must clearly define the ends toward which the organization strives. They must co-ordinate the labors of all so as to attain those ends. They must find the best methods of work, and they must enforce the use of these methods on the part of the workers. They must determine the qualifications necessary for the workers and see that each rises to the standard qualifications, if it is possible; and when impossible, see that he is separated from the organization. This requires direct or indirect responsibility for the preliminary training of the workers before service, and for keeping them up to standard qualifications during service. Directors and supervisors must keep the workers supplied with

detailed instructions as to the work to be done, the standards to be reached, the methods to be employed, and the materials and appliances to be used. They must supply the workers with the necessary materials and appliances. They must place incentives before the worker in order to stimulate desirable effort. Whatever the nature or purpose of the organization, if it is an effective one, these are always the directive and supervisory tasks.

It appears possible therefore to find inherent in the nature of effective, fully developed human organization, of whatever sort, certain general principles of management and supervision that have universal applicability. These general principles have been recognized by different social organizations with very unequal degrees of clearness, and their application to the problems in hand has been made also with varying degrees of completeness. The principles appear to be most clearly conceived and to have been most fully and completely worked out by certain portions of the industrial and business world. Certain railroads and manufacturing corporations have gone farther in this direction than government, or philanthropy, or education, or any of the less materialistic institutions. These latter institutions, are, however, in fact, at present taking over the lessons to be taught by the industrial world; and they are busily making application of proven principles of good management to the special problems of their own field.

Educational workers can, therefore, perhaps see the nature of some of these principles of supervision rather more clearly from observing their application in other fields of human labor, partly because they have been more completely developed and applied in those fields, and partly because they can be viewed in a more objective and impersonal manner. In undertaking our discussion of certain of these principles, it seems well, therefore, to state and illustrate each of them in their most general form as they apply to any organization; then to show in detail how each of them has been worked out in the field of education; or, as it is unfortunately too often the case with us, how it is being worked out and the probable lines along which it is yet to be further developed.

Although we are in our field rather backward as compared with portions of the world of affairs in the recognition and development of some of these principles, together with their corollaries; yet, as a matter of fact, all of them are recognized in our work in greater or lesser degree;

and without exception, each is at present in process of rapid development. We can excuse our relative backwardness on the ground that our educational systems are institutions of very recent growth. Present-day forms of organization in the business world began in the Middle Ages. Our large and complicated public-school systems, however, have been mostly developed thus far, in matters of organization and supervision, within the memories of men now living. We are doing pioneer work as compared with the older institutions; we think we have a right, therefore, to expect some of these older institutions to show us the elements of organization that make for strength, and the elements of supervision that make for effectiveness.

In making application of these principles to the educational field, we shall find ourselves at times confronted with tasks for which our profession is at present almost wholly unprepared. Much of our present educational labor is on so low and empirical a level that a great many preliminary steps will have to be taken before we can raise our methods to the place demanded by the higher and more refined forms of empiricism; or yet, to the still higher plane of scientific control. Recognition of the principles, however, is necessary to any constructive program. It is for this reason that we have not hesitated in our discussion to make deductive application of principles or of their corollaries which cannot actually be applied in our supervisory labors until a number of preliminary and prerequisite tasks have been accomplished. While some of the matters discussed may therefore be impracticable for actual supervision at present, or in the immediate future, they are presented with a belief that they are highly practical for the investigations that lie just ahead of us, on the basis of which we can bring about such forms of scientific supervision and control in the educational world as already exist within certain other institutions.

It is not, in fact, possible at present to write a satisfactory practical handbook of school management or school supervision. So rapid have been recent changes in educational thought, that books on either of these topics of a type that was considered altogether permissible ten years or even so recently as five years ago, can no longer be written; and the facts are not yet at hand in sufficient quantity on the basis of which to write a practical handbook of school management of a type that will satisfy the current demands of progressive educational leaders. Any paper on the topic during our present transitional period can do little

more than suggest the constructive program on the basis of which the facts may be accumulated which will permit the writing of such a practical handbook some years hence.

In making suggestions for a constructive, forward-looking program, it is necessary to assume that we are at present in a stage of incomplete development. While all, or at least most, of the elements of educational progress probably look squarely in the right direction, yet we have to admit that in the case of some of them the amount of progress yet made is not considerable. When we have occasion at times to mention this incompleteness of development as the basis on which further building is to be done, it is not intended as uncharitable or unsympathetic criticism of present-day conditions. It is only to point out incompleteness. To say of a new building that is in process of construction that only the foundation has been laid is not a criticism of the building. It is only to point out the stage of construction in which it happens for the moment to be.

Such a building is to be judged not from the visible portion but from the architect's plans. Any particular educational system is likewise not to be judged from the incomplete beginnings actually visible, but by the architectural plans which have been drawn up by those in charge of the work, and which show the ends of which the present elements are but the beginning. In the building world, although the plans of the architect picture nothing that actually exists, yet these forward-looking plans constitute the practical and indispensable basis of all constructive work that is to be done.

In the building of a great educational structure, such as the one upon which we are now engaged, it appears that such forward-looking plans are equally practical and indispensable bases for work. They show something definite toward which to strive and on the basis of which all effort can be organized and co-ordinated. I am unable to conceive of any more practical labor that could be undertaken by the educational world than the definite drawing-up of systematic forward-looking plans on which our constructive labors might be based. The chief purpose of the following suggestions is to make clear this need. The work itself must be a co-operative task on a large scale.

II. STANDARDS

Principle I.—Definite qualitative and quantitative standards must be determined for the product.

Principle II.—Where the material that is acted upon by the labor processes passes through a number of progressive stages on its way from the raw material to the ultimate product, definite qualitative and quantitative standards must be determined for the product at each of these stages.

The world of material production cannot so much as begin its work until it has definite plans and specifications as to the nature of the product that is to be turned out. To take a single instance from among countless familiar instances, a steel plant manufacturing rails for railroads must have, before it can begin its task, definite specifications as to the nature of the rails to be turned out. The rail, for example, must be thirty feet in length, and weigh eighty pounds to the yard. It must be seven and three-eighths inches in height, with a head two and one-half inches wide and one and one-half inches deep, a web thirty-five sixty-fourths of an inch in thickness and five inches deep, and a base five inches wide. The under surface of the base must be plane and the top surface of the head must be curved in the exact form shown by the drawings that accompany such specifications. Equally definite likewise are the specifications as to chemical quality, physical qualities, tempering, and the like.

With these definite standards as to the nature of the ultimate product before him, the superintendent of the plant is prepared to organize all of the forces at his command, to direct them, and to supervise them in such fashion as to secure just the product desired. He is able to select the most suitable machinery for the task and to make the necessary adjustments. He can tell instantly whether his machinery produces the desired product or not by measuring the actual product and comparing it with the standard product. He can know when machinery is to be altered or discarded, and another form substituted that will produce the standard product. He can know whether the workmen are doing the thing that is expected of them. Thus he can instantly detect good work and poor work among the men. He can know who needs help and who needs none. After trial he can know what one needs further training during service and what one would best be transferred to some other department or discharged. He has a basis for judging labor methods likewise. The product which results from the use of different methods

can be measured up against the standard, and determination can easily be made of the relative efficacy of different methods.

In the absence of such standards, the superintendent of the plant is helpless. If his instructions are merely general, they cover such a possible variety of products that he cannot know with certainty what to do. If given an order by some contracting railway in such general terms as, "Make us a supply of steel rails," he cannot know how long to make the rails, whether they shall be straight or curved, heavy or light, high or low, cast-iron or rolled steel, high carbon or low carbon, tempered hard or tempered soft, whether the edges shall be angular or rounded, whether the weight shall be uniform in the different portions, whether the cross-sections shall be T-shaped or a simple rectangle. He cannot know the quantity to make, nor the date upon which it is to be finished. Unless he sets up an arbitrary standard of his own, he cannot direct his men, since he has no ends toward which to direct them. He cannot know whether the men are doing good work or poor work since he has no standards to measure it by. The men may make rails; but unless limited by standards they will necessarily be of great variety, with most of them useless for practical service.

It is well to note also, for our purposes, that the standard qualifications of the product are not determined by the steel plant itself. The qualitative and quantitative specifications are determined by those that order the product, in this case, the railroads. The steelmills are but agents of the railroads for the performance of this specific function. Naturally the steel plant, since it is performing a specialized function for the transportation world, must not only be expert in its own special field, but must have a good general knowledge of the needs of the transportation world. Still, notwithstanding this expertness and this necessary width of information, it is the transportation world that determines all qualitative and quantitative standards for this particular product.

The principle stated at the head of this chapter is probably general and applies not only to the management of labors in the field of purely material production, but also to the control of co-operative labor in the field of biological and psychological production as well. Education is a shaping process as much as the manufacture of steel rails; the personality is to be shaped and fashioned into desirable forms. It is a shaping of more delicate matters, more immaterial things, certainly; yet a shaping

process none the less. It is also an enormously more complex process because of the great multitude of aspects of the personality that are to be shaped if the whole as finished is to stand in full and right proportions.

In the field of biological production, of which education constitutes one sort, the factor of growth enters in to complicate and in part to obscure the working of our principles. Within the seed planted by the farmer, for example, the standard product appears to be already infolded and predetermined without man's aid. All that is necessary apparently is to cultivate and to protect, leaving the rest to sun and rain and the growth-factor. The product arrives in due season whether there are standards for the product in the farmer's mind or not. As a matter of fact, however, the standard contained potentially within the undeveloped germ may be such that, in the case of corn, let us say, with the best cultivation the plant must be small with a single ear poorly filled out; or it may be a large vigorous stalk with two large full ears. It may produce ten bushels to the acre or it may produce a hundred. Of potatoes, the average yield in our country per acre over a series of years is ninety-six bushels. In 1907, the lowest average per acre was sixty-five bushels; and this, too, in the great agricultural state of Kansas. The highest average for any state was in the desert state of Wyoming, two hundred bushels to the acre. One man in Wyoming averaged for his farm over a thousand bushels to the acre. He had set his standard at one thousand and, having a standard to work toward, controlled conditions accordingly and reached it. It was not superior soil or climate; it was having a high standard on the basis of which to adjust and control all the necessary processes. In these illustrations it may be noticed that the growth-factor does a part of the work; but that this factor working alone can produce only an inferior product. Man must set up standards and arbitrarily control conditions even here in order that, with the aid of the growth process, he may secure the full possible product.

In education it is the same. The growth-process will of itself do much to unfold the various latent aspects of the personality. The teacher may simply assign lessons and hear lessons without any thought of possible quantitative standards, trusting that the enfolded possibilities will expand of themselves into proper strength and proportions. With this system of procedure it has been found that, among school systems all of which are above the average, one eighth-grade class will add at the rate of thirty-five combinations per minute, while another

eighth-grade class not dissimilarly located will add at an average rate of one hundred and five combinations per minute, or three times as fast. In two schools of similar grade, located within the same city, it is found that the sixth-grade pupils in one of them will write at a speed of 58 letters per minute with a quality of 53, Ayres's standard; while the sixth-grades classes in the other school write at an average speed of 115 letters per minute, with an average quality of 50. Quality being practically the same in the two schools, the quantitative standards reached by one school were twice as high as those reached by the other. If so great variety is to be found among pupils of supposedly equal ability in these so-called standard subjects in matters the most simple, fundamental, and mechanical, we may reasonably expect that in the higher, more complicated matters of science, history, and the humanities, the variations are much greater. Unfortunately we have no exact measurements in these fields. The facts given above, however, taken from the simpler fields, indicate that teaching without standards, trusting unduly to the growth-factor to determine the limits may result in a low or a high product. In education, apparently the growth-factor does a part of the work; but, unless standards for this growth are definitely set up, teachers and supervisors have nothing definite to aim at. And the actual average of performance is sure here as in agriculture to be but a per cent, sometimes a small per cent, of the possible performance.

So long as education is content merely to set the conditions of growth in a general way without reference to standards of growth, the educational supervisor, though relatively less helpless than the director of the steel plant, is yet in his turn relatively helpless. Having no standards he cannot know how long to continue developmental influences, whether one year or ten years. He cannot know how intensively to exercise these influences, nor the amount of daily or weekly time to give. He cannot know whether the relative emphases upon the development of different aspects of personality are properly proportioned. He cannot know except in vague general ways what methods are proving best or what teachers are doing the best work because of the lack of clearly defined standards with which to measure the results of the various methods employed by the various teachers.

Within the past decade we have come to see that it is possible to set up definite standards for the various educational products. The ability to add at a speed of 65 combinations per minute, with an accuracy

of 94 per cent is as definite a specification as can be set up for any aspect of the work of the steel plant. The desirable qualities of mathematical computation, in any of its forms, are speed and accuracy. It is possible in the case of every desirable mathematical operation to set up standards of speed and standards of accuracy. Obviously, these can be low or high. A standard of 30 combinations per minute with an accuracy of 75 per cent is very low as compared with a standard of 100 combinations per minute with an accuracy of 98 per cent. For certain classes of students, bookkeepers and accountants for example, the standards need to be high; for other classes of workers, musicians, for example, or bricklayers, the standards set may well remain fairly low and their energies be expended upon other matters more important for them.

Setting up standards of ultimate attainment can be of but little service unless we have at the same time the necessary scales and methods for measuring the educational product so as to determine with at least reasonable accuracy whether the product rises to standard. Ordinarily, the teacher, if asked whether his eighth-grade pupils could add at the rate of 65 combinations per minute with an accuracy of 94 per cent, could not answer the question; nor would he know how to go about finding out. He needs a measuring scale that will serve him in measuring his product as well as the scale of feet and inches serves in measuring the product of the steel plant. The labors of Mr. T. W. Stone and of Mr. S. A. Courtis have shown the possibility of determining practical usable measuring scales for arithmetical ability.

Mr. Courtis has tentatively determined measuring scales for ability in addition, subtraction, multiplication, division, the rate of motor activity in copying figures, the speed of solving simple one-step reasoning problems, the solution of abstract problems involving all of the four fundamental operations with integers, and the speed and accuracy of solving two-step problems involving reasoning—eight scales in all. Each scale is drawn up in such fashion that each unit of work is intended to be equal with each other unit of work in the scale, just as in a foot-ruler each inch is of the same length as each other inch. In the addition scales, for example, as shown below, each group of five combinations is of the same degree of difficulty and requires the same amount of work as each other group of five combinations. The same method of forming equal units is used in connection with the scales for subtraction,

for multiplication, for division, and for copying figures. In test No. 6, the simple reasoning speed test, each problem is intended to be of the same difficulty as each other one. In test No. 7, the ability to handle the four fundamental operations, the problems are grouped in such fashion that each unit is the equal of each other unit. The two problems in addition are the equal of the one problem No. 3 in multiplication. Units No. 7 and 8, it will be noticed, are to be found within the same multiplication problem which is one of double the difficulty of unit No. 3. Four of the eight measuring scales are here reproduced.¹

Each scale is intended to measure the amount of work that can be performed within a given time and to measure its accuracy. For the simpler problems, the first six scales in fact, the standard allowance is one minute. For scale No. 7, it is 12 minutes; and for scale No. 8, it is 6 minutes. The pupils in a class are measured by starting all of them at the same instant at the beginning of the scale and stopping them at the end of the standard time allowance. The operations performed

ARITHMETIC

TEST NO. 1.

SPEED TEST—ADDITION


1 6 9 0 4	1 7 9 3 2	1 3 6 0 3	8 9 7 8 2
2 6 5 1 2	3 7 6 0 4	5 8 9 7 2	1 9 6 0 5
- - - - -	- - - - -	- - - - -	- - - - -
1 4 8 0 2	3 4 7 0 3	1 2 5 6 7	5 8 6 9 4
6 7 9 5 7	1 6 9 8 5	4 9 8 0 2	1 3 5 0 3
- - - - -	- - - - -	- - - - -	- - - - -
2 9 7 4 5	1 3 8 2 3	4 8 9 5 3	1 8 6 0 5
2 3 8 0 2	7 9 5 0 7	1 8 7 0 6	9 4 7 2 4
- - - - -	- - - - -	- - - - -	- - - - -
7 4 8 0 3	9 2 5 0 6	2 4 5 1 6	3 7 9 0 4
1 9 6 0 4	1 8 7 4 3	1 8 9 0 2	3 4 8 6 5
- - - - -	- - - - -	- - - - -	- - - - -
4 8 5 0 7	5 9 6 7 5	1 6 7 0 2	6 9 8 1 2
4 2 6 9 3	5 2 8 0 3	8 4 5 3 6	1 4 7 1 3
- - - - -	- - - - -	- - - - -	- - - - -
1 7 9 3 2	8 9 7 8 5	1 2 6 0 3	1 4 9 0 4
3 7 6 0 4	1 9 6 0 2	6 7 9 7 2	6 7 5 1 2
- - - - -	- - - - -	- - - - -	- - - - -

¹ These scales are reproduced through the courtesy of Mr. S. A. Courtis. The complete series of scales can be found in his *Manual of Instructions*, published by S. A. Courtis, 82 Eliot St., Detroit, Michigan.

ARITHMETIC

TEST NO. 7. FUNDAMENTALS

In the blank space below, work as many of these examples as possible in the time allowed. Work them in order as numbered, writing each answer in the "answer" column before commencing a new example. Do no work on any other paper.

No	Operation	Example	Answer	Right	
1	Addition. .. {	a $30+735+123=$. (Write answer in this column) 			
		b $141+9021+102+2020=$.			
2	Subtraction {	a $4387-165=$			
		b $934762-821021=$			
3	Multiplication	$2102 \times 321=$			
4	Division.. .	$318864 \div 312=$			
5	Addition. .. {	$7024+342+4700+7005+$			
		$2040+563=$			
6	Subtraction...	$82311024-46973687=$			
7 } 8 }	Multiplication.	$65048 \times 546=$			
9	Division.. . . .	$19055832 \div 4=$			
10 } 11 }	Division. . . .	$2753296 \div 364=$			
12 } 13 }	Addition.... {	$55843+76868+66989+58393+$			
		$79656+57866+38575+$			
		$75967=$			
14	Subtraction .	$15542634-7865875=$			
15 } 16 }	Multiplication	$98756 \times 768=$			
17	Division. . . .	$34834506 \div 7=$			
18 } 19 }	Division.....	$7636399 \div 967=$			

speed of the class. By counting the number correct and the number incorrect, and calculating percentages, one has the relative accuracy of each pupil; and by averaging the accuracy coefficients, one can determine the average accuracy for the entire class. Table I shows the average speed for each of the school grades in each of the eight operations based upon the speed measurement of about nine thousand pupils distributed among a dozen different cities. For the first five scales only the number of correct operations are shown. For scales No. 6, 7, and 8 both "attempts" and "rights" are shown.

TABLE I*
GRADE AVERAGES FROM TOTAL DISTRIBUTIONS

GRADE No.	AVERAGE OF SCORES FOR EACH TEST	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6		No. 7		No. 8	
							Ats.	Rts.	Ats.	Rts.	Ats.	Rts.
1	55	6	6	..		29	.	...	...	..	...	...
2.. . . .	75	21	12	10	12	51	.	...	...	..	...	...
3.. . . .	525	26	19	16	11	63	2 8	2.1	5.4	1.7	2.7	0 6
4.. . . .	1,222	33	25	23	21	70	3.7	2 5	6.6	3.6	2.6	0.8
5.. . . .	1,177	40	32	30	28	80	4.4	3 4	9 0	5 3	2.8	1 2
6	1,282	46	37	34	35	88	5 1	4 4	10 3	6.9	3 4	1.7
7.. . . .	1,432	51	40	38	38	98	5 9	5.2	11.5	7 6	3 7	2.2
8	1,370	57	45	43	44	102	6 8	6 1	13.1	8.9	4.1	2 7
9.. . . .	412	59	47	45	47	108	6 9	6 4	13.7	9.5	4 1	3.1
10.. . . .	216	57	45	43	46	112	7.2	6.7	14 0	9 5	4.1	3.1
11.. . . .	151	59	47	44	48	114	7 9	7 4	14 4	9 4	4 5	3.3
12.. . . .	109	61	48	44	49	112	7 7	7 2	14 9	10 8	4 6	3.6
13.... .	462	71	56	50	56	116	8 6	8 2	16 8	12 6	5 3	4.0
14.	131	74	51	58	59	124	9 7	9 1	17.2	11 8	5.4	4.1
	8,679†											

* S. A. Courtis, "Standard Scores in Arithmetic," *Elementary School Teacher*, November, 1911 pp. 127-37.

† Certain of the tests were omitted by several schools, thus materially reducing the average. For most of the tests, however, the total number of scores is over 9,000.

Mr. Courtis is of the opinion that the averages may represent approximate norms for the earlier grades. For the later grades, however, they probably are below what ought to be expected. Taking, therefore, the averages for the third grade as normal for the third grade, but for the eighth grade taking a speed rate such that 70 per cent of the pupils fall below it and 30 per cent rise above it, he plotted a smooth curve having the same general form as the average curve and coinciding with it in the lower grade. From this curve he calculated the probable

standard score for each of the grades between the third and the eighth. Table II represents his "standard scores." This table shows what in his opinion, based upon the averages, ought to be expected of each of the school grades in these eight kinds of mathematical operations.

TABLE II*
STANDARD SCORES

TEST No.	No. 1	No. 2	Nos 3 AND 4	No. 5	No. 6		No. 7		No. 8	
					Ats.	Rts.	Ats.	Rts.	Ats.	Rts.
Grade 3. .	26	19	16	58	2.7	2 1	5 0	2 7	2 0	1.1
Grade 4. .	34	25	23	72	3.7	3 0	7 0	3 3	2.6	1.7
Grade 5. .	42	31	30	86	4.8	4.0	9 0	4 9	3 1	2.2
Grade 6. .	50	38	37	99	5.8	5 0	11 0	6 6	3 7	2.8
Grade 7. .	58	44	44	110	6.8	6 0	13.0	8 3	4.2	3.4
Grade 8. .	63	49	49	117	7.8	7 0	14 4	10 0	4.8	4.0
Grade 9. .	65	50	50	120	8.6	7 8	15 0	11 0	5.0	4.3

* Courtis, *op cit.*, p. 135

Translating this table into words: "At the end of a year's work, an eighth-grade child should be able to copy figures in pencil on paper at the rate of 117 figures per minute; to write answers to the multiplication combinations at the rate of 49 answers per minute; to read simple one-step problems of approximately 30 words in length and decide upon the operation to be used in their solution at the rate of 8 examples a minute with an accuracy of 90 per cent; to work abstract examples of approximately 10 figures (twice as many for addition) at the rate of 14 4 examples in 10 minutes with an accuracy of 70 per cent; to solve two-step problems of approximately 10 figures at the rate of 5 in 6 minutes with an accuracy of 75 per cent. At the present time 70 per cent of the eighth-grade children cannot meet these standards. But it must be borne in mind that 3 per cent of the fifth-grade children can, and that experience has shown that individual care and a very little, well-managed drill produces marked changes in the ability of most children."¹

To translate the table into words in another way: In simple addition operations, the third-grade teacher should bring her pupils up to an average of 26 correct combinations per minute. The fourth-grade teacher has the task, during the year that the same pupils are under

¹ Courtis, *op. cit.*, p. 136.

her care, of increasing their addition speed from an average of 26 combinations per minute to an average of 34 combinations per minute. If she does not bring them up to the standard 34, she has failed to perform her duty in proportion to the deficit; and there is no responsibility upon her for carrying them beyond the standard of 34. Her task is simply to increase their addition rate from 26 to 34. The fifth-grade teacher is to take pupils with an average rate of 34 and bring up their speed to an average of 42, a perfectly definite task. The sixth-grade teacher is to take pupils with an average of 42 and to carry them before the end of the year to an average of 50 combinations per minute. The seventh-grade teacher increases their ability from 50 combinations to 58. The eighth-grade teacher takes them with 58 combinations to the minute and brings them up to 63, and the ninth-grade teacher is to add the small increment of 2 combinations per minute during the ninth grade. In like manner, in the case of each of the other operations, each teacher has his own special increment to add to the work of his predecessor before turning his partially finished product over to the next teacher in the series. This table of standard scores of Mr. Courtis shows us the ultimate standard that is to be attained at the end of the school course, and it also shows the progressive standards to be attained at each stage of the process from the beginning to the end. It gives us the two things required by the two principles of supervision stated at the heading of this chapter.

1. *Value to the teacher.*—Each teacher can know accurately what is expected of her. The sixth-grade teacher, for example, knows that, in the solution of a series of problems involving all of the fundamental operations, of the difficulty of the examples of scale No. 7, the pupils when they come to her from the fifth grade should be able, in a 12-minute test, to solve 11 of these problems with an accuracy of 60 per cent. She can therefore know in the beginning whether they are up to standard or not. She also knows definitely that it is her task to increase their ability in such degree that at the end of the year these same pupils will be able to solve 13 of these same problems in 12 minutes, with an accuracy of 64 per cent. If the standards are rightly placed she must not fall short of this, neither must the pupils go beyond it. The standard so set up is to be attained, neither more nor less. Her task is equally definite in the case of each of the other combinations in which the students are to be trained.

Having these definite tasks laid upon her, she can know at all times whether she is accomplishing the things expected of her or not. She can herself know whether she is a good teacher, a medium teacher, or a poor teacher. She can know when she needs help, and when she needs no help; when she needs to use better methods, and when she has found better methods. She can know how much time to give to any specific task. If the time allotted to her is limited, she can know whether within the time given she can bring thirty pupils to the standard required, or fifty pupils, or eighty. She can judge the efficacy of the books and appliances that are furnished her. The teacher is thus prepared to judge herself and all her methods and appliances. Being thus able to judge of her output, there is no chance of injustice being done her. She can be sure of receiving help in proportion to need, and recognition in proportion to merit.

The child becomes the center of her educational consciousness rather than the machinery of education. Her problem is no longer the mere turning of the machinery that is given her, letting it grind out whatever educational product happens to occur, good, bad, or indifferent. Her task is to turn out a product of a definite sort in the shape of developed abilities within the pupils. Manipulating the machinery of education then becomes the means and not the end. Her vision must be kept focused on the ends to be reached—the awakening of latencies into actualities within the pupils.

This putting of the educational product in the forefront of education means the establishment of a continuous record of progress in the case of each of the products. If in the case of addition, the standards are 26, 34, 42, 50, 58, 63, 65 successively, then for each particular pupil we must have in a parallel column the record actually attained by him for each of these successive stages of advance, to see whether he has kept up to standard, fallen below it, or advanced beyond it. Such a continuous record must be kept, naturally, in the case of each of the many score educational products so as to show how each pupil at any time measures up against the standard. Simpler than parallel columns of figures would be graphical representation, the only objection being the necessity of increased space and labor.

Graphical representation might be made as in the excellent condensed form presented by Mr. Courtis in his circulars and reproduced in Fig. 1.

The vertical columns represent the work that should be done by the various grades. The line representing the work done by a seventh-grade pupil, let us say, would, if the pupil's work was altogether normal, lie wholly in the seventh column. If the curve should move to the left into lower columns, it would indicate deficiency; if to the right into higher columns, it would indicate superiority in his work.

Another plan of graphical representation, requiring more space, is

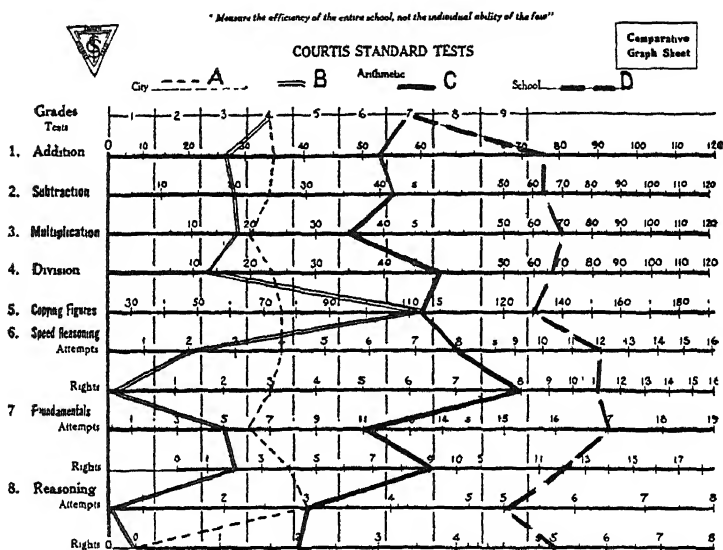


FIG. 1.—In the figure above curves A and B are of two individuals in the same class. From an Indiana school. Note that A is practically normal except in the last test (shown by the fact that the curve is almost a straight line and lies almost wholly within the boundaries of the fourth grade), while B is below grade in every test but one and is particularly weak on reasoning.

Curves C and D are two measurements of the same child, one in September and the other in June. From a Michigan school. Note the correction of many defects and the balance of the final scores.

(Cut presented through the kindness of Mr. Courtis.)

shown in Fig. 2. On the five records of pupils are placed dotted lines which represent the normal progressive standards for speed in solving the examples of scale number 7. The continuous lines represent the performances of five different students. The records show that evidently pupil No. 1 does normal work; the line of performance follows the line of expectation. With pupil No. 2, the line of performance is

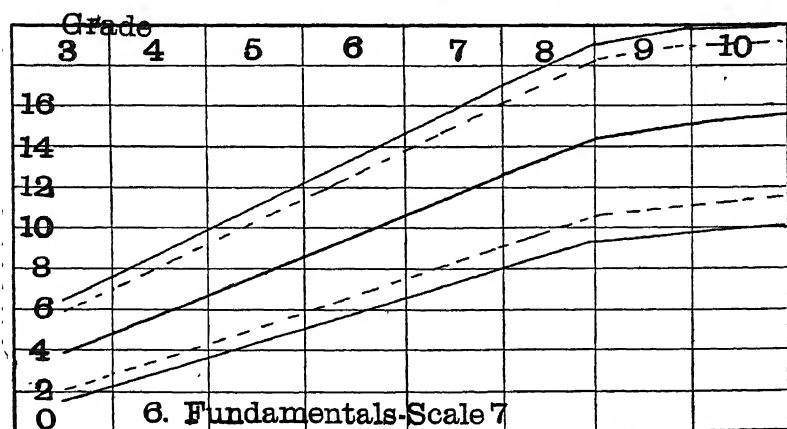
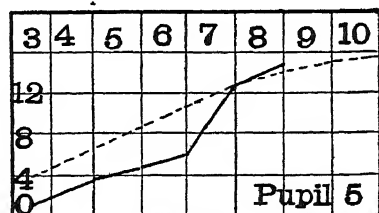
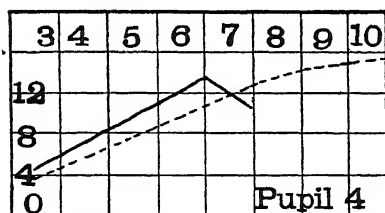
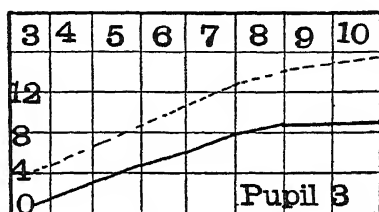
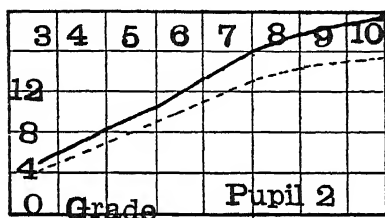
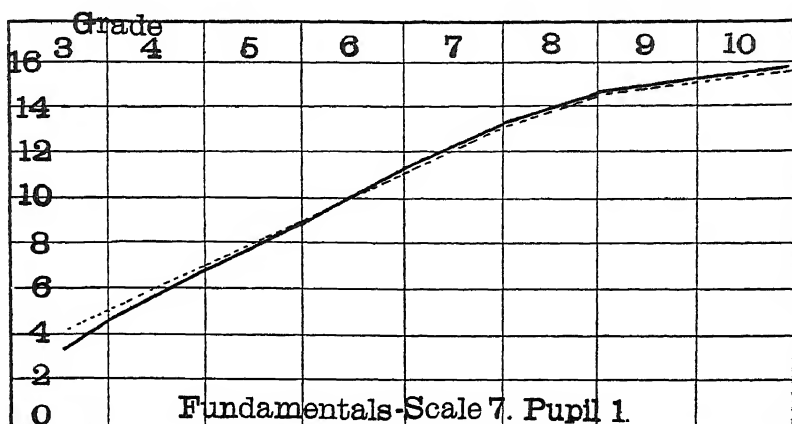


FIG. 2.—CONTINUOUS RECORDS OF PUPILS

much above the line of expectation; the pupil is evidently one of exceptional ability in this respect. Pupil No. 3 is obviously of low ability; his performance is uniformly and continuously below the standard expectation. Pupil No. 4 is evidently a bright pupil gone wrong for some reason or other that requires investigation and correction. Any sudden change in the line downward is naturally a call for help, and shows the teacher and supervisor where to focus their efforts. A continuous, apparently consistent record much below normal may likewise be a call for help. There may be some removable obstacle, continuously at work. Pupil No. 5 represents a pupil suffering from a removable difficulty. When the difficulty was removed, he rose to normal.

Evidently standards should be diverse according to native ability. For a pupil that starts off as pupil No. 2, the ultimate standard should be very different from the ultimate standard of a pupil who starts off like pupil No. 3; and the progressive standards should be correspondingly different. There ought certainly to be not less than three sets of standards for the varying native ability: one for the 60 or 80 per cent of pupils lying near the normal, another for the 10 or 20 per cent of pupils who have high ability, and a low standard for the 10 or 20 per cent of pupils who are much below the normal in ability. The pupil would select his own standard by his own performance. There could be absolutely nothing arbitrary about it. On record No. 6, in Fig. 2, three such standards are shown. The dotted lines might indicate divisions at such levels that 20 per cent of the pupils, if distributed according to the normal probability curve, would find themselves above the upper dotted line, and 20 per cent below the lower dotted line. Now in actual practice using this particular printed form as the basis of the graphs, any pupil whose record persistently fell below the lower dotted line might use the low standard of performance as his norm. Those whose records were between the two dotted lines might use the central normal line as their norm, while those whose records were above the upper dotted line would regard the higher series of standards as their norm. The pupil places himself, and for him to do so must necessarily be a healthy thing for him and for all concerned.

This differentiation of standards on the basis of native ability is closely related to the differentiation of standards according to vocational and social destiny. In the cases in question those pupils who fall into the lower 20 per cent and thus require a lower standard of performance

than the average must be prevented from entering any field of work that requires rapid, accurate, mathematical calculation, unless it can be proven that their inability is due to defect, and unless this defect is actually removed and they rise into the higher ranks of their classes. Pupils whose performance falls near the middle of the scale and whose standard is the one of mathematical mediocrity should be strongly urged not to undertake vocational labor that requires strenuous mathematical ability. This differentiation of standards and the letting of pupils find their place becomes then one of the strongest instruments in the hands of the schools in the matter of vocational guidance.

2. *Value to the supervisor.*—The building principal or supervisors of special subjects can tell by glancing over the continuous records of the pupils under any given teacher and comparing them with the standards set for pupils of those particular classes whether the teacher is securing the full results expected in the case of the different pupils, and whether in so doing she is handling the normal number of pupils. The teacher who falls short of this standard; or, when standards are reached, is able to bring only a small number of students up to these standards, is unmistakably shown to be a weak teacher. The one who can bring a large number of pupils up to the standard for those pupils in a minimum of time can be known instantly as a good teacher. A supervisor can thus know absolutely where he needs to give help and also where no help is required of him. Moreover, looking over the record of the students, the supervisor is apprised of just the thing in which a teacher appears to be deficient, and can not only know what teachers to help but in which particular department of that teacher's work he must give the most help and in which department the least.

These standards are not set up by the supervising principal himself, nor are they set up by the teacher. The standards represent common aims toward which both must strive. The success of both depends upon the ends being attained. Principal and teacher are thus put upon a common level. Neither exercises arbitrary authority over the other. It is a case of the stronger helping the weaker for the success of both; or perhaps better, a case of the specialist in one aspect of the work helping the specialist in an allied field of co-operative endeavor, for the good of both.

The supervising principal can further know whether the weak or indifferent teacher to whom he is giving advice and assistance of every

necessary sort is in fact making improvement; whether she is, in fact, taking advantage of the aid that is being given. He can know, from measuring the results of her work, whether to make more strenuous effort, or whether he can relax his efforts. He will then have incontestable evidence of inefficiency against the weak teacher who cannot or who refuses to improve. And the present-day difficulty of removing such a teacher from the service, transferring her, or retiring her, will be instantly overcome. The principal can also know when he has given enough help to the teacher, and when no further help is required.

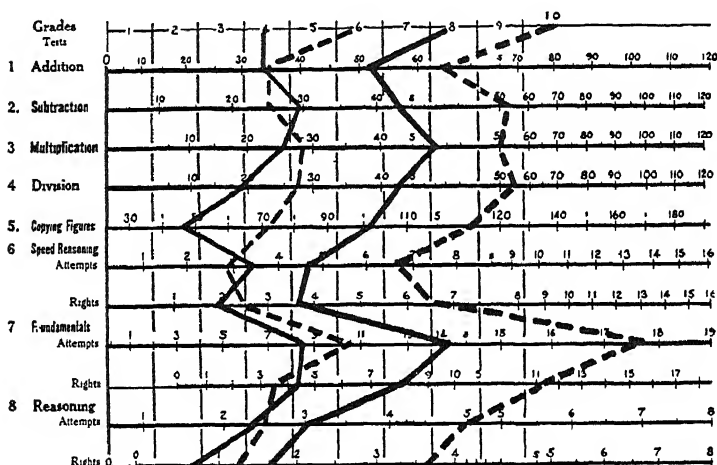


FIG. 3.—BALANCE OF COURSE OF STUDY. GRAPH OF GRADE AVERAGES.

The curves show that the course of study emphasizes the abstract work at the expense of reasoning. A Virginia School.

(Cut loaned by Mr. Curtis)

The principal can judge of the course of training given by all his teachers whether weak or strong. Fig. 3 pictures the situation in a school where the emphasis is very irregular. A principal, finding such weakness in arithmetical reasoning as the figure exhibits has pointed out to him in unmistakable terms just where readjustment in the course of study is needed.

When the principal can state the results of the efforts of his teachers in terms of definite measuring scales, it will be possible for him to compare the results obtained in his building with corresponding results of other buildings within the city. He can know whether the results of

the work of his building are high, medium, or low. He can know whether the methods which he sanctions are getting proper results as compared with methods used in other buildings. He can tell whether the books, appliances, and the distribution of the day's time are securing the results obtained in other buildings. At present it is practically impossible for one building principal to know how his work compares with the work of other buildings in the city. He has too little time for visiting, and when he does visit he has no accurate scales with which to measure the work so as to make the necessary comparisons. If he is reduced in rank by the superintendent, he feels that it is an exercise of arbitrary

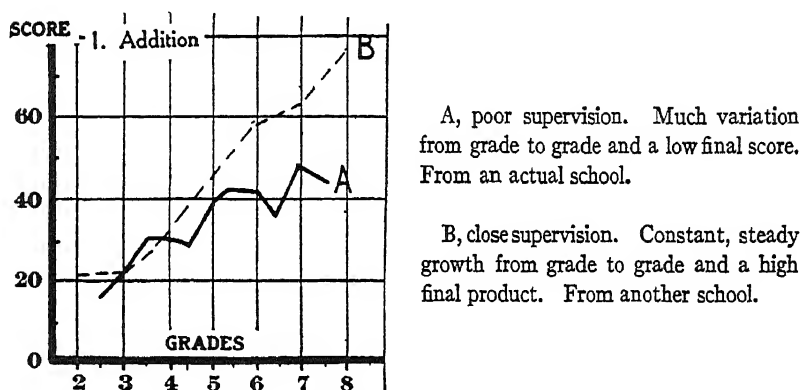


FIG. 4.—EFFICIENCY OF SUPERVISION

authority and that injustice has been done. If he sees another principal promoted to a higher rank, or promoted over his head, he feels again that it is an exercise of arbitrary authority and not primarily the reward of merit; and he feels again that injustice is being done. But when he can definitely know how the work of his building compares with the work of principals of other buildings, arbitrary authority in his mind is replaced by absolute standards, and he can know whether it is merit that wins or not. Under these circumstances he can know that it is merit that wins; since merit will win when it is possible to measure merit.

With scales of measurement and standards of performance such as described, it is no longer possible for a principal to hide behind the plea that he has an inferior social class in his school, and, therefore, high performance should not be expected of him or of his teachers. The

differentiated standards for the bright, the normal, and the dull make allowance for this difference in the quality of the pupils' ability. It is a question of a principal's securing from his building a proper number of units of product of the standard that is naturally set by the nature and destiny of the pupils themselves. With standards rightly placed, the amount of effort required to lift a pupil from one stage to the next on the low level will be approximately equal to the amount of effort required to lift a student from one stage to another upon the higher level. It is a question of the quantity of units that result from the labor. The fact that the raw material is naturally poor is eliminated as a disturbing factor in the comparison of building with building.

3. *Value to the superintendent.*—The superintendent, by glancing over the number of units of results obtained by each teacher in each building in his city, especially when thrown into distribution tables and graphs, can locate instantly the strong, the mediocre, and the weak teachers. By noting the distribution by buildings, he can also see at a glance what building principals are doing a superior grade of work, what ones relatively poor work. Thus he is able to tell at once where his strong subordinates are and where his weak ones are. He can know with certainty the building principals and the teachers that are especially in need of help from the central office. It tells him where work is needed and the degree in which it is needed. It forms the only secure foundation on the basis of which to distribute his efforts so as to bring about within the system the greatest possible degree of efficiency. Without these definite facts, he gropes in the vague realm of general impressions. He cannot know with certainty where his help is most needed, nor can he know the degree in which it is needed.

With figures before him of the sort indicated, he can not only know what teachers are weak, but he can know in what particular topic they are weakest. Thus the expert help sent to these teachers can be of the sort from which they are able to profit most. There is no need of sending help to a generally weak teacher in the matter of tasks in which the teacher happens to be strong, and the work satisfactory. A scientific placing of the supervisor's efforts cannot be accomplished until we can accurately locate weakness with certainty.

With standards and scales of measurement, the superintendent will be in a position to measure the relative values of different methods, different textbooks, different amounts of time given to a topic, and the

like. At present it is not considered safe to experiment in a public-school system in any great degree because of the great difficulty of knowing when things are going wrong in time to prevent harm being done the pupils. But when definite measurement is possible, the workers cannot be kept long in doubt as to whether a given method or a given textbook is securing the requisite results. The superintendent can test out two given methods of teaching a topic, for instance. In one building some reliable teacher uses the one method, in another building another reliable teacher uses another method. The results of the different methods can be measured by scales and secure judgment made as to which is the superior. Where difference is pronounced, the poorer method can be discarded, the better method standardized for all the schools. In judging textbooks likewise, one kind of book can be used in certain buildings and another kind of book used in other buildings. Results can be compared one with another and measured. It can be definitely known which of the books is the superior, and the poorer one can be discarded. Textbook companies can be forced to expend the whole of their competitive energies in improving the qualities of their books.

The superintendent will also have for the first time the ability to compare the work of the schools within his city with the work of schools in other cities. The plan has already been introduced into the field of educational finance, where it is much easier to define items to be measured, and where the scale of measurement lies ready at hand in our money system. The Bulletin of the U.S. Bureau of Education by Mr. Updegraff, entitled *A Study of Expenses of City School Systems*, shows the method and the possibilities of such comparisons.

With these standards, a superintendent can judge himself. He can know whether the results obtained in his city are superior, inferior, or mediocre. He can see the size of the task that he must undertake with his principals and teachers in order to bring his city up to standard requirements. He can bring the board to see the nature of the problem, and this will tend at least to stimulate them to furnish the necessary equipment, supplies, and teaching power to accomplish the task. Moreover, he can bring the community to see the relative deficiency of results in their city and can stimulate public opinion, in a manner the most effective, toward better school support and co-operation. He has unanswerable arguments on the basis of which to urge improvement in the quality of teachers, in the quality of books, in the quality of

buildings, in the size of classes, in methods employed by the teachers, and every other thing that makes for increased efficiency. He can talk a language that can be understood by the community. The isolation of the school, which is at the present time the greatest obstacle to improvement from within and the greatest obstacle to community understanding and co-operation from without, can be overcome when teachers, parents, school boards, business men, can discuss results in specific understandable terms. Such is not possible at the present moment. To create this common language and common basis of understanding between school and community must of necessity be one of the greatest of the values to be derived from the establishment of standards and of scales of measurement for the various educational products.

4. *Value to the student.*—Perhaps it may here be objected that the effect of standards of achievement upon the pupil is a teaching problem rather than a supervisory problem. As a matter of fact, however, looking at a school system as a large organization of individuals for the purpose of turning out certain necessary human products, the pupils are in fact the ultimate workers. They are the rank and file over whom the teachers stand in supervisory capacity. The work is a development of the potential abilities which the pupils carry around within themselves into actual abilities of a given degree. These actual abilities are the educational products. It is the work of the student, not the work of the teacher, that produces these products. The teacher is supervisor, director, guide, stimulator, of the rank and file of the workers in order to bring about on the part of the latter the development of these various abilities. The teaching problem is in fact a supervisory problem at the first level.

With standards of addition, subtraction, multiplication, and the rest before him, this ultimate worker, the pupil, can know definitely what is expected of him. The teaching problem is then to teach the pupil how to study, and properly to adjust stimulations so as to produce the desired effort. A tremendous amount of effort on the part of the teacher now expended in carrying the student along passively on his back can be dispensed with; the student can be made to walk and bear his own burdens with this own strength and gain further strength thereby. Time can be gained for pupils and for teachers which can be expended more profitably.

It is unfortunate for our discussion that we must in such large

measure employ the future tense. Enough has already been done by Courtis, Thorndike, Ayres, Freeman, Wilson, Bliss, Hillegas, and many others, in these matters, to justify all these statements when taken qualitatively. It is yet too early, however, to make even quantitative estimates. We can be sure that, when the pupil knows what he should do, and when the teacher knows the best methods of stimulating him, efficiency in the work of the pupil will be increased. Wilson and Bliss present a few figures showing large improvement. We cannot say, however, whether the increase will be 50 per cent or 200 per cent. Probably the figures will be large when matters have been worked out.

Although the work of Mr. Courtis represents the most advanced work of its kind in the field at present, yet it is but the beginning of the task of setting up practical standards of arithmetical ability. His standards are based upon the average of pupils in the schools as they are. It is to assume that what we are doing is about right, the task of setting standards being but a putting into definite terms of things that are otherwise indefinite.

Now as a matter of fact, the average performance of our schools may or may not be closely related to the thing that we ought to do. If we were to determine the standards for the teaching of agriculture on the basis of the average amount of work that is now done and the average standard that is now reached, it is probable that our standards would be very far below those that ought at present to be set up. If we take the average performance of high-school girls in algebra and use this as the basis for a determination of proper standards for algebra, it is probable that our requirements would be much higher than the actual needs of girls in the matter of algebra. What the schools are doing cannot be used as the sole basis for establishing the ultimate standards of performance. Neither can it be used as the basis for establishing the progressive standards. It assumes that the work of the schools is right and on the basis of this establishes standards, when, as a matter of fact, we must first establish our standards before we can even so much as judge as to the rightness of school work.

Where then are standards to be found? Recurring to our illustration at the beginning of this chapter, it was noted that standard dimensions and qualities of steel rails are not determined by those who are engaged in the manufacture of steel rails, but by those of the transportation world who use the product of the steel plant. Now the relation of

the school system to the various departments of the world's activity is exactly the same as the relation of the steel plant to the transportation industry. Each department of the world's affairs demands of the schools educational products of the kinds needed by this particular department. Now taking mathematical ability, since that is the product under discussion here, the commercial world is demanding of us standards of one sort; the world of mechanical industry places other kinds of requirements upon the schools, and the need for different standards; the home-keeping vocations of women demand still other standards of mathematical ability. It is the need of the world of affairs that determines the standard specifications for the educational product. A school system can no more find standards of performance within itself than a steel plant can find the proper height or weight per yard for steel rails from the activities within the plant.

Take the case of a man who builds a house with the aid of a contractor. It is for the man to specify in definite terms what he wants. Suppose, however, the man says to his agent, "Here are \$5,000; build me a house." Nothing is set down for the agent to live up to in the way of quality of materials, quality of workmanship, or plans. The agent is left to self-interest and his own ideas. It is probable that neither the one nor the other will bring about a result satisfactory to the principal to the transaction. An unsatisfactory result is practically inevitable. The principal, however, cannot justly blame his agent for not giving satisfaction. His agent was not properly provided with instructions as to what to do, or with necessary limitations as to what he must not do. Now when the general society as principal says to the school as its agent: "Here are \$35 for each pupil sent to you; take it and educate them." The agent in this case is as helpless and as irresponsible, necessarily, as in the other case. Positive instructions are not given; limitations are not set. He, too, is free to follow self-interest and his own ideas. Satisfactory results are not probable. The principal, however—society in this case—can have no just grounds for complaint. It did not properly instruct its agents.

It may be said that general society speaking through its representatives has specified the work to be done. It has said that we must teach reading, spelling, writing, composition, arithmetic, geography, history, hygiene, elementary science, and manual activities. So it has; but even if it had not, the school would be doing these things, anyway. Their

instructing the school in terms more general than the actual arrangements of the school already provide does not accomplish the purpose. It is altogether too general, too indefinite. It is much the same as if the principal to the building transaction should say to his contractor when asked for instructions: "Oh! Make a dozen windows, a dozen doors, six or eight rooms, a roof, some partitions, and a stair." Whatever design the contractor should draw up, or whatever materials he should use, he would make these things, anyway; and his principal's giving instructions in such general terms is of no more service than if he gave no instructions at all. Instructions on every point must be definite; the exact arrangement of every room, door, window, wall, in fact, every element in the building, exact to a fraction of an inch, must be exactly stated. Nothing less will serve. Now in the case of the instructions of our general society to its agent, the school, specifications must be equally definite. This principle is fundamental. We are scarcely prepared to take any step forward in education until we have taken this step.

A school system is one of the world's practical productive concerns. A railroad, for example, not only requires steel but it requires steel that is fashioned into a shape that can be used—rails, locomotives, cars. For its operatives, it requires not merely men, but men whose abilities have been shaped into the fashion that can be used most effectively. Now it is the business of the factory management to furnish the material appliances in their proper forms. It is equally the business of the educational management to furnish the abilities of the operatives in the proper forms. The standards must of necessity be determined and stated, in the one case as well as in the other, by those that use the product, not by those who produce it. Standards of addition, subtraction, or other mathematical operation, can be determined only by the needs of that department of human affairs where that ability is to be used. Standards are to be found in the world of affairs, not in the schools.

The determination of standards on the basis of the averages of the work actually done in our schools is to establish, for the most part, the same standards for all classes of pupils. The world of affairs, however, lays very different requirements upon different classes of its workers, and therefore, in the case of each, lays different requirements on the school as to the educational products. If standards are adjusted to needs—and they must be—then in these matters of mathematical speed and mathematical accuracy, we must have a different set of standards for

each of a number of vocational classes. The requirement for some will be high; for others, it will be low. In the matter of algebra, for example, some forms of labor would set up high standards of requirement; others would make no requirements at all.

Before we can have scientific supervision in education, of the efficient sort already to be found in the best portions of the business world, it will be necessary to make careful surveys of community needs, on the basis of which to determine the necessary standards. These surveys should be made, not by school people, but in each department of human affairs by those who are most familiar with its needs. The commercial world can best say what it needs in the case of its stenographers and accountants. A machine shop can best say what is needed in the workers that come to it. The plumbing trade contains the men who are best able to state the needs of those entering upon plumbing; and so on through the entire list. If the various departments of the business world could thus state in specific terms the kind of educational product that it desires in the workers that come to it, it would be performing a far more valuable service than the present method of complaining that the schools are not turning out what they want, when, as a matter of fact, they have never told the schools exactly what they do want. The schools are in the position of the steel plant that receives the order from the railroad: "Make us some steel rails." Such a railroad need not expect to be satisfied with what it gets. Its specifications are too vague. Neither can the world expect to get a good product from our school systems until it defines what it needs in specific terms.

Although the burden for the determination of the ultimate standards for educational products lies rightly and necessarily upon the various departments of the general society of which the educational organization is but an agent, still the school systems cannot stand idly by and passively wait until these various departments of practical affairs present their statements as to their educational needs. These various departments of affairs require active and vigorous leadership for their educational thought; and they require large quantities of expert information and advice. In general, they do not understand in clear terms their relations to public-school education; they do not clearly appreciate the responsibility that lies upon them for definitely saying what they want. On the other hand, they do not know the possibilities of improving public-school education by absolving their portion of educational responsibility.

In general, when they want a thing done better than the public schools are doing it, they desire to set up a special system of schools, looking upon public education as hopeless. Simply they do not know how to use their agent so as to get the things they need.

The responsibility probably lies upon those who direct educational affairs to make clear to the various departments of human activity this relationship, and the necessary division of responsibilities. The method of making this relationship clear is probably not to give these various organizations and classes of men good advice as to what they should do. A better way probably is to set on foot the actual practical work of determining in co-operative fashion the particular standards of speed and accuracy for the various desirable mathematical operations needed. The growing complaint as to the inefficiency of our public-school education, the growing insistence that new kinds of schools be established for giving the kind of training that the world can use, the insistence that there be advisory boards drawn from the various departments of affairs directly concerned—all these things show a vague awareness of the relationship that should exist between the practical world and the department that supplies ability for the use of this practical world. The world thus proves itself ready for the leadership and for the co-operative tasks here outlined.

The case is different, however, as to the progressive standards that will lead ultimately to these final standards. After society has given to the school its ultimate standard in any particular case, it then is certainly the business of the educational and psychological experts to determine the time of beginning, the intensity of the work, and the standards to be attained in each of the successive stages.

The standards for the educational product required by the first principle stated at the head of this section must necessarily be socially determined by matters that lie outside of the school system. The progressive standards required by the second principle must be psychologically and experimentally determined by expert educational workers within the school system itself. This is a special professional problem requiring scientific investigation of a highly technical sort. It is a field of work in which the untrained layman can have no opinion and in which he has no right to interfere. Society is to say what shall be accomplished in the ultimate education of each class of individuals. Only the specialist can determine how it is to be done.

Mr. Courtis does not claim that his "standard scores" are final, nor that the ultimate standards are determined on the proper basis. He is doing pioneer work, and all that he claims is that the standard permits the rendering definite of educational ends that are now vague, inchoate, indefinite. It means also the setting-up of standards that are superior to those of most of our schools at the present time—standards, too, that are possible as shown by the fact that they have been attained and frequently surpassed by a number of schools tested. His work shows progressive standards that are both actual and possible in a good school system. His scales for the eight operations are the best that have yet been devised for measuring these forms of work. While his work has only begun, it has gone far enough to point clearly to the long program of investigation that lies before us. It has gone far enough also to show that the existence of standards must lie at the foundation of scientific direction and supervision of educational affairs.

So much time has been given to the Courtis standards and scales of measurement because of their definiteness and completeness, so far as they carry the work. Probably the entire subject of public-school mathematics will be the easiest subject in which to develop ultimate and progressive standards, together with scales of measurement. By developing the easiest field first we shall acquire the technique and the experience that will permit the solution of the progressively more and more difficult tasks presented by the more intangible portions of education.

Another subject in which standards might be determined with relative ease is spelling. Although much good work has recently been done in this field on the side of methods by Pearson, Wallin, and Suzzallo, yet so far as I am aware, little has been done in the way of determining standards. It is usually assumed that pupils are to be brought up to a standard of absolute perfection in spelling. Determinations have not been made as to the range of words to be covered on the basis of this standard.

Now it is probable that there is a list of words which, for any given class of students, ought to be spelled by them with an accuracy of 100 per cent. There probably is another list to be determined in which an accuracy of 98 per cent should be the standard; a third list, in which the accuracy might be 96 per cent; and a fourth list, 94 per cent. There is probably, for any given class of people, a list of words used so very

rarely, and which are relatively so difficult that an accuracy standard of 75 per cent would be high enough; and another list in which an accuracy of 50 per cent would be sufficiently high.

Moreover, it is also reasonably certain that standards of accuracy should be different for different social and vocational classes. For the stenographer, proofreader, or telegrapher, the standard of accuracy should be very high for a very large list of words; whereas, for the plumber, the carpenter, or the farmer, the standards of accuracy might well be considerably lower, and the range of words covered considerably narrower.

Now what, for example, are the words that the world of affairs requires the stenographer to spell with an accuracy of 100 per cent? What is the list of words in which she may be permitted an accuracy of only 98 per cent? And in like manner, what should be required for each of the progressively less accurate lists? Obviously this is not a thing that the school can of itself determine. It is for the business world to say what these lists are. The task of determining the lists will be naturally a co-operative one, of school workers and business workers, as described in the discussion of mathematical standards.

After these ultimate standards are set up for the training of stenographers, the rest of the task is an expert educational one with which the outside world has nothing to do. It is the determination of the various progressive standards that should be reached at each stage of advance from the beginning of the teaching until the attainment of the ultimate standard; the determination of methods of work, of textbooks, of relative times, and the control of many other factors. The lists of words themselves together with the percentage scale constitute the scale of measurement.

With such standards, the prospective stenographer can know exactly what is expected of her in the way of spelling. The teacher can know exactly what is expected. The principal can know what is expected; and so on throughout the entire supervisory line. Moreover, proper tests can show at periodic intervals whether the standards are being attained.

Commercial courses in our high schools cannot then be accused by business men, as they are now accused in authoritative reports, of turning out stenographers who cannot properly spell. They will not be turned out until they can spell. Length of courses will then be deter-

mined, not by the calendar, but by the time it takes to finish the product up to standard. At present, the chief difficulty is that in such courses there are no standards to work to. Schools are simply grinding away without any goal in view. They move in the right direction; they may move in the wrong direction. Without a goal their efforts are relatively random, feeble, inefficient. The pupil does not know what to aim at, the teacher does not know how much to require; the principal does not know how high the teacher is aiming; the superintendent has no means of knowing the standards of either teacher or principal. The whole situation represents the jellyfish stage of organization and direction.

The desirable list of words, and the varying standards of accuracy for the lists would have to be determined in the same manner for the training in spelling for each of the large social and vocational classes. And as in the arithmetic tests, we shall again, naturally, need different standards for those of low, mediocre, and high natural ability, each pupil choosing the standard, not arbitrarily, but by the nature of the work that he does. Progress can be recorded graphically in the same fashion previously described for the arithmetic operations. His standing here again would be significant for vocational guidance. Individuals whose native aptitude kept them along the line of the lower standard would certainly be kept out of the vocation of stenographer, or newspaper compositor, or telegrapher. When such standards have been created, supervision of training in spelling is possible; without standards of some sort, there can be relatively little supervision, in fact.

In this field of spelling we have neither tentative standards such as those that Courtis gives us for arithmetic, nor any tentative scale of measurement. The few lists of words that have been used by the expert spelling investigators are altogether too brief; and their relative position in any scale altogether too indefinite to serve the purpose of standard scales of measurement. For simple comparative tests of the work of city with city, or school with school, they serve a very useful purpose and look definitely in the direction of assured progress. The work needs to be continued until we have standards that can be of permanent worth. Such standards would certainly not be unchanging. They would change as determinative technique improved and they would change with social conditions. But that even change be rational, there must be something relatively permanent to be changed.

Handwriting has made rather more progress. We have here two

good scales of quality, one by Thorndike, one by Ayres, both scientifically constructed, but on rather different bases. The speed scale is the number of letters that can be written per minute. On the bases both of quality and of speed we have already tentative standards, for the various school grades. The following table shows the standards that have been arrived at tentatively by Dr. Freeman and Superintendent Wilson:

SCHOOL GRADE	SPEED		QUALITY	
	Wilson	Freeman	Wilson (Thorndikescale)	Freeman (Ayres scale)
1A.... .	12-16	20	8-10	35
2B...	15-20	30	8-12	} 40
2A	15-25	40	9-12	
3B....	15-30	} 50	9-12	} 50
3A...	25-40		9 5-13	
4B....	30-55	} 60	10-13 3	} 50
4A....	40-65		10-13.6	
5...	45-65	70	10-14	55
6.	50-70	80	11-14	60
7...	50-75	90	11-14.5	65
8	55-75	100	12-15	70
9th year	55-85	..	12-16	.
10th year	60-85	..	12-16	.
11th and 12th years.....	65-100	.	12-16	.
Comm. high school. . .	65-100	.	13-18	.

These standards are drawn up on the basis of average attainments in schools as they now train in handwriting; they are not based upon the actual needs of men. The setting-up of standards, such as presented in the table, both ultimate and progressive, based upon the work within the school system itself, is naturally an enormous step in advance of present conditions; and the possession of such standards creates the possibility of supervision of the teaching of this subject. Such standards have most of the supervisory value of standards determined from an analysis of human needs. They are not so convincing, however, to students or to teachers; and probably have not the same stimulating qualities. They probably cannot be so serviceable in the co-operation of school and community in matters of stimulating effort on the part of the pupils.

The ultimate standard to be attained in handwriting cannot be determined from anything to be found within the school. These

ultimate standards can only be found in the world of affairs. And the standards will necessarily differ from social class to social class. Standards for commercial workers will have to be much higher than for literary workers. Standards for the latter need to be higher than for blacksmiths and carpenters and farmers and men who have relatively little writing to do. The ultimate standards for commercial workers should probably not be so high as was demanded ten years ago, or thirty years ago, owing to the introduction of machines for writing. Final decision of the question can be made only by the commercial world. Having the ultimate standards for each particular class, it is the special function of the expert workers to determine the progressive standards and general procedure for accomplishing the training. Here laymen can have nothing to say.

Within recent months Thorndike and Hillegas have given us a tentative scale for measuring merit in English composition. Such a scale is necessary before we can have the terms in which to define actual standards, ultimate and progressive. Just as the invention of the foot-ruler or some analogous linear measure is necessary before we can have absolute standards for the manufacture of steel rails, so in composition ability we must have definite scales of measurement established before we can set up the standards to aim at in the shaping of the product. This scale of Thorndike and Hillegas is only a scale of measurement however. There is nothing in the scale itself to say what the standards of attainment shall be. This is a matter to be determined by the needs of men. What composition ability, let us ask, is needed by men and women in each of the various walks of human life? To what standards of merit as shown by the scale of measurement is each of these classes to be brought during their training? The answer is not to be found within the school. Let educators, social workers, and plumbers get together and determine the standards for the plumber. Let farmers, social workers, and educators get together and determine the standards for the farmer. Let newspaper men and educators determine what the standards shall be for prospective journalists. The labor needs to be extended through a long list.

The scale for measuring merit in composition appears to be a more difficult thing to devise than the scales for the other subjects discussed. Several factors enter in, such as handwriting, sentence structure, spelling, rhetorical arrangement, together with the general spirit of the

thought content. Then again there are different varieties of prose composition—description, narration, and the like. It is possible, before the task of establishing standards can be accomplished, that we shall have to devise a number of measuring scales, one for each of the aspects of a composition, and one for each of the different varieties of composition. Thorndike and Hillegas have pointed the way and shown the possibilities. The large co-operative task lies upon all of us to take their suggestions and carry through the various necessary investigations to their ultimate completion. It will mean a slight increase in our work for the moment. It will mean a tremendous economy of labor and time and expense in the end. The task is inescapable; and the sooner done, the better.

In these simple fields it appears possible to determine scales of measurement, and to set up standards. Is it possible to make such determinations for all aspects of school work? It seems possible in the case of studies and exercises that involve objective activity or expression. Thus it appears possible in reading, drawing, translation of foreign languages, grammatical analysis of sentences, music, the various manual activities, sewing, woodwork, embroidery, printing, bookbinding, together with the entire field of physical development, strength, endurance, nutrition, vital capacity, weight, and height.

On the other hand, the teaching of science, history, and literature has such intangible aims as width of mental horizon, depth and fulness of appreciation, accuracy of judgment, and right social and moral attitudes. Here at first glance it appears impossible to set up definite scales of progress of a quantitative sort, in terms of which to state and to measure standards of attainment. In the case of each of these, however, it is possible to secure an objective expression of one sort or another. Usually in each case it is possible to secure a number of kinds of expression which may be used as bases for the formulation of scales of measurement in terms of which standards can be expressed. Since we are beginning naturally with the simpler matters, these more complicated ones lie some distance in the future and it is probable as technique develops and as we become familiar with the work these more intangible matters may present less difficulty when we reach them. It seems possible to determine scales of measurement and standards, both ultimate and progressive, with an accuracy sufficient for all practical directive and supervisory purposes for every desirable educational prod-

uct, whether tangible or intangible. We have standards at present, in fact, for every educational product. Our problem is simply the replacement of vague, indefinite estimation with more exact methods of measurement, and the substitution of definite standards of attainment for the uncertain, fluctuating ones now used. Since the scales and standards are here more difficult, these problems may well wait until we have developed technique and skill on lower, easier levels. After our profession has scaled the lower heights, it will be time enough to prepare to scale the higher.

The higher, however, must be scaled. However difficult it may seem to set up quantitative standards in the more intangible fields, it must of necessity be done, if once they are introduced into the lower more objective and more mechanical forms of training. It will work harm to establish definite standards for only a portion of the tasks of education, leaving the rest to the traditional vagueness and uncertainty of aim. In any school where accurate standards of mathematics, penmanship, composition, and spelling are established and enforced, but where all the rest of the work is left to the usual chance, teachers know that they can be and that they will be more definitely measured and judged in these standardized subjects than in anything else. The result is therefore, necessarily, overemphasis upon the simpler more mechanical subjects and relative neglect of the other and, on the whole, more important subjects. The work becomes mechanized not because of standards, but because standards have been established only in the mechanical aspects of the work. The things that are mechanical receive, under such conditions, more than their share of emphasis. This result is not, however, an argument against the presence of standards where they exist. It is rather an argument against the lack of standards in fields where they do not exist. The remedy is to establish equally definite standards in every field of educational labor. There can be no other remedy.

This very difficulty is one of the incontestable proofs of the relative superiority of the work with standards in stimulating teachers, supervisors, and pupils. The standardized matters get the time and the labor, and the unstandardized portions of the field are the ones neglected. But education must take care of all desirable aspects of human personality, training and developing each in due proportion, slighting nothing, neglecting nothing, giving unduly large or unduly small attention to nothing. Therefore if standards of attainment are set up in any part

of the educational field, they must of necessity be set up in all portions of the educational field.

Efficient *methods* are dependent on definite standards. So long as definite standards are lacking, we cannot expect methods to grow efficient. One does not devise expert methods of hitting a mark, nor does he exert himself strenuously in the effort, until he has some mark to hit. So long as his task is a mere firing in the air, almost any method will do. But the moment a specific mark is set for him, he must discriminatingly discard everything useless or relatively ineffective and must equally discriminatingly choose methods that are relatively efficacious in securing the end in view.

We do not exert ourselves to discover effective methods without some such incentive, nor to adopt them even after they are discovered. The unfortunately more or less isolated experimentation in our universities has definitely proven in a number of cases that in a given subject one method is very superior to another method. Yet, in practical schoolroom procedure, the two methods can, throughout the country, be found side by side, with the majority seemingly unconcerned and making little effort to apply information that has definitely been proven. The dearth of investigative results in our universities is certainly in part owing to the apathy with which the results are received by the practical educational world. There is little incentive for producing a thing if there is no call for it. The apathy in the practical educational world is probably more than anything else due to a lack of definite standards. When we have a specific mark to aim at and are judged to have failed in our efforts if we do not hit that mark, an incentive will have been thrown into the educational world that will no less than revolutionize its attitude toward scientific procedure.

Who should test the results? It is probable that they should be tested by workers all along the line, some for one purpose, some for another, the efforts of each serving as a check and a corrective for the others. If the eighth-grade standard for speed in multiplication is 50 operations per minute, it ought to be possible for the pupil himself to test his speed ability whenever he likes to see if he has attained the standard that has been set for him. He has thus a check upon the tests made by the teacher, as well as a number of other desirable things. The teacher, certainly, should be able and should test her pupils in every thing in which she trains them. This is necessary in order that she know

whether she is securing the standard product, falling below, or going beyond what is expected of her. It is a check also upon the supervisory tests. Injustice cannot be done her by the latter tests, if she has a check upon it. The building principal will necessarily occasionally make tests upon the pupils in order to locate strong and weak teachers, or strong and weak teaching in any subject. He needs the tests also in order that he may compare his work with that of other buildings in the city, his tests serving as a check upon injustice being done him by higher supervisory tests from the office of the city superintendent.

Tests will also be made by representatives of the superintendent; over these, the building principal will have no control. It is an accepted principle in the business world that the department which inspects the product must be wholly independent of the department which is responsible for securing the product. It is possible that the greater probity of building principals and teachers over that of corresponding workers in a business organization will render this principle somewhat less necessary in the educational field. The superintendent can in larger measure accept the results of tests given by principals and by teachers. But as the results of these tests come to determine the efficiency mark of teachers and principals; as they come to determine the salaries of the workers, together with other immunities and privileges, it will probably be necessary to reinforce this probity by independent tests from the superintendent's office after the plan of the inspector's department in the business world. But a superintendent who wanted to make good with a discerning community might very well manipulate results so as to make them more favorable than conditions warrant. It appears, therefore, that those who set aside the school organization as their agent might very well have an inspectorial department for independent testing of the work of their institutional agent.

An objection that will be made to this basis of scientific direction and supervision is that the requirements in the way of continuous records for each pupil are so great as to make the task impracticable if not impossible. Speed in addition requires one record, accuracy another; speed in subtraction a third, accuracy a fourth; and so on through the various forms of computation. Quality of handwriting demands a record for itself; speed of writing demands another. Accuracy in the spelling of one large list of words must have an individual record; accuracy of spelling another list, a second record; a third list must have

a third record; and so on. This series of records needed seems to extend throughout the whole realm of education, there being one continuous record for each educational product. It looks as though it would require a small ledger for each individual pupil to record his progress in developing each of his various necessary abilities. It looks like a large problem. Are the educational products worthy of the labor of keeping track of them?

This keeping of a continuous record of the results of labor is a commonplace in the business world. There, for example, the record follows each lot of goods through the factory from the time the raw material is received to the time it is finally disposed of in the shape of a finished, inspected, standard product. The principle is religiously followed in all successful commercial and transportation establishments. The business world knows that it cannot afford to neglect this function. It involves an elaborate system of accounting, but the business world has proven that the extra labor and expense is economically justifiable many times over by the saving and economy in the handling of the product. It is an indispensable basis for efficient management, direction, and supervision. Business efficiency would be destroyed if it were dispensed with.

I am unable to see any reason why we have less need of such continuous records in the development of a hundred related intangible products, the labor covering ten or fifteen years, than does the business world in the handling of goods of a relatively simple nature which remain in their hands but a comparatively short time. Where the processes are complicated, and efficiency in the result difficult to determine, and where the process covers a long period of years, the necessity for a careful continuous record is much greater than in the other case. It is probable therefore that education requires an even more elaborate system of accounting than is required by a factory or a railroad. It is probable that with us, as with all other organizations, ample and accurate information is the only possible foundation for successful management. Although such records will require an increased amount of labor for somebody, yet there is no reason that I am able to see why every advantage that accrues to the business world from the careful keeping of continuous records, would not also accrue in equal measure or in even greater measure to the educational world. When 10 per cent increase of clerical labor means 100 per cent increased profit for an

organization, clearly the extra clerical labor required for efficient direction and control is altogether justifiable. We have every reason to think that increased results in education would equally justify the increased expenditure.

It must be remembered, however, that these continuous records cover a period of from ten to fifteen years. During a considerable portion of this period the pupil himself can do much of the labor. Moreover, in the training of clerical workers in our schools, the lack of live clerical work of a useful sort for giving them practice is one of the great deficiencies. This work might well eliminate a portion of this dearth of material. The saving in teaching labor required that is affected by the one matter of continuous records will perhaps be very much greater than the increased amount of labor necessary to make the records. Within a few years we can quote the quantitative results of actual experience, we hope, instead of being compelled in this humiliating fashion merely to make deductive applications of the principle to our field on the basis of the way it works among other organizations whose efficiency is so far in advance of that of our own.

A good deal of work is being done at the present time in the standardization of the various classes of educational costs. Although this is a bit beside our purpose, in this paper, yet it further illustrates the need of standards on the training side to serve as bases for standardizing costs in the field of physical administration. The method of drawing the deadly parallel between schools within the same city or between schools within different cities in the matter of the costs per pupil in each of the various items of educational expenditures is a long step forward. Of itself, even under present conditions, it means great improvements in methods of placing educational money, in economy, and in efficiency. Still it is but one step in the direction of effective procedure. As a matter of fact, there are so many factors entering into each of the items of expenditure as tabulated at present that it is practically impossible to make anything more than the most general sort of comparison. If we refer to Mr. Updegraff's study of *Expenses of City School Systems*, we find, for example, that among cities with a population of over 30,000, the cost per pupil of the salaries of teachers ranges from \$9 to \$36, the mean cost being about \$16 and the middle 50 per cent range being from \$14 to \$19. The presumption is that a city that finds its cost within this middle range can feel itself reasonably safe in its

standard of expenditures while those that exceed \$19 or fall below \$14 are expending either not enough or too much per capita. Now, as a matter of fact, if a school expends \$26 per pupil for teaching and secures twice the results obtained by a school expending \$15 per pupil, the expensive school is, in fact, the more economical of the two. And of two schools near each other in the middle zone of safety, one may be securing a high quantity of results, and another a low quantity. One may, in fact, be securing a product that is inferior to other schools more efficiently managed that lie altogether below the lower limit of the zone of safety. We cannot standardize teaching costs until we standardize teaching product. The school that secures the greatest amount of product for the money expended is the most economical school whether it lies above the zone of safety or below it in the matter of actual expenditures as shown in Mr. Updegraff's tables. The present rapid progress, therefore, which is being made in the field of educational financial accounting is, from its side, going to demand that the unit of product be defined in terms sufficiently accurate to permit comparative cost calculations between schools in the same city and between schools of different cities.

To summarize these matters: (1) As a foundation for all scientific direction and supervision of labor in the field of education, we need first to draw up in detail for each social or vocational class of students in our charge a list of all of the abilities and aspects of personality for the training of which the school is responsible. (2) Next we need to determine scales of measurement in terms of which these many different aspects of the personality can be measured. (3) We must determine the amount of training that is socially desirable for each of these different abilities and state these amounts in terms of the scales of measurement. (4) We must have progressive standards of attainment for each stage of advance in the normal development of each ability in question. When these four sets of things are at hand for each differentiated social or vocational class, then we shall have for the first time a scientific curriculum for education worthy of our present age of science.

In my opinion, the formulation and development of some such program, completed and corrected by the co-operative work of the many viewpoints to be found among progressive workers, constitutes the most practical single task at present before the field of education. It points to a goal of administrative efficiency as far above the present as scientific

management in the business world is above the ordinary crude, empirical management. The greatest obstacle appears to be, not the complexity of the problems, nor the lack of technique, but rather the inability of school people to co-operate and the lack of a desire to co-operate. Owing to the nature of the training, the nature of the weeding process along the line, and the nature of the work to be performed, the school man is necessarily an intellectualist, and the intellectualist is, by nature, whatever the field of his labor, an independent individualist, a man of wide vision and of large capacity for self-help and self-direction. By nature he is a leader of men. He dislikes nothing so much as to sink his personality into a co-operative task where he is not the leader or director. Impatient of restraint for himself, he is sympathetically impatient of restraint for his colleagues. Each educational worker desires therefore for himself and for all others in the field of education the greatest possible degree of individualistic freedom. The result is, in city school systems, in normal schools, and in our universities, the relative autonomy of a very large number of small units—in other words, a low and primitive form of organization, direction, and management. All this stands in the way of accomplishing any large co-operative task. It results in a constitutional tendency to place the welfare of the worker above the welfare of the organization, and the welfare of both above the welfare of the total society of which school men and school institutions are but agents.

The program of work herein described, however, appears to be a co-operative task that will require the efforts of thousands of workers in the field, elementary, secondary, normal school, collegiate, and university. It is a task that will require some sacrifice, some setting of social service above personal or professional self-interest. Its accomplishment is inevitable; the major obstacle mentioned can only make delay. The ideal of social service is rapidly becoming the corner-stone of faith in every department of human affairs—in none certainly more than in the field of education. In this service, "social efficiency" is becoming the chief watchword and the chief aim. No servitor is so faithful or so efficient as the independent intellectualist who has come to see that for all men, for his class among the rest, there is opportunity in organized and co-operative effort for a larger life and a larger reward than is possible in a state of primitive, inchoate, intellectual individualism. In our field, many such men are now ready, and the time is ripe.

III. METHODS

Principle III.—Scientific management finds the methods of procedure which are most efficient for actual service under actual conditions, and secures their use on the part of the workers.

Until very recently within any field of co-operative endeavor, the management felt that it had absolved at least most of its responsibility when it had assigned the various portions of the work to the various workers and had placed incentives before them to stimulate them to proper effort. Practically all initiative in the way of methods of work was left to the workers themselves. In the performance of any given task, the worker was left mostly to "trial and error," as he groped after the best way of doing the thing. The result was that in the performance of any given task one worker employed one method, another worker at his side employed a different one. Mr. Taylor tells us that in a machine shop of twenty-five years ago employing five hundred workmen, it was possible to find several score different methods used in the performance of any piece of the work. The foreman was but a promoted workman whose information was empirical like that of the rest of the men, and did not in fact exceed the information of the more experienced and best workmen of the group under him. They were about as competent to find methods as he. He confined himself therefore to assigning their work and managing the incentives. The accumulations of traditional knowledge had naturally weeded out the very poorest methods. But of those employed, some were many times more efficient in securing a product than others. But the foreman was not in a position to undertake the direction of the methods employed.

Machine-shop work has now been raised to a far higher plane where the output by the same workmen using for the most part the same machinery is now from three to ten times as large as that formerly produced, and this without laying greater burdens upon the men. The change has been brought about mostly by undertaking the control of methods. Steel-cutting industries have developed a science which controls the processes. On the basis of this science, scientific methods have been formulated and the management no longer confines itself to assigning the tasks and controlling incentives; it also definitely undertakes full control of the methods employed. This is the secret of the startling transformations in industry that are at present being brought about by the much-heralded scientific management.

In the educational world, we are at present in the stage represented by the machine-shops of twenty-five years ago. The supervisory staff distributes the various tasks of education to the various teachers, and tries in every proper way to stimulate teachers to effective effort. In the matter of method the workers are expected for the most part to take the initiative and find the methods for themselves. This freedom to grope in "trial-and-error" fashion is even considered a right of the teacher not to be taken away by the supervisory staff. The result is that in a school system employing a hundred sixth-grade teachers, let us say, we can find a great variety of methods of doing each sixth-grade task. Two years ago, Mr. Marker took the courses of study used in about a hundred of our largest American cities with a view to ascertaining the consensus of opinion as to the best methods of teaching the English language in the elementary schools, in the various grades from the third to the eighth. After tabulating the tasks performed, the time given, the materials used, the methods employed, he discovered that among the teachers in our leading American cities, every sort of thing is being done, in every sort of way, using every kind of materials at every stage of the course, with as large an amount of variation in the time allotted to the different elements as it would be possible to have. The study gave little information as to what to teach, what to use in teaching it, how to teach it, when to teach it, how long to teach it, or how to distribute the time. Conflicting opinions neutralized each other. His results presented a vivid picture of a vast "trial-and-error" experimentation and confusion covering the entire country. And this is in the field of work that is considered most important, since to it we give most time in the elementary schools.

The new and revolutionary doctrine of scientific management states in no uncertain terms that the management, the supervisory staff, has the largest share of the work in the determination of proper methods. The burden of finding the best methods is too large and too complicated to be laid on the shoulders of the teachers. The task of turning out the fullest possible product is so large that there must be division of labor. The teacher must perform his share of the work, but the supervisor must also perform his proper share. Each must be a specialist; each must cover a different portion of the task. Under scientific management, the supervisory staff, whose primary duty is direction and guidance, must therefore specialize in those matters that have most to do

with direction and guidance, namely, the science relating to the processes. The ultimate worker, the teacher in our case, must be a specialist in the performance of the labor that will produce the product. One specializes in *science*, the other in *practice*.

This does not mean such narrow specialization of the special field that neither knows much of the work of the other. As a matter of fact, the teacher must have a large understanding of the science of his work, in so far as this is understood by the supervisors, in order that he may understand their instructions, and in order that he may rationally adjust his portion of the work to the total work of the organization. On the other hand, those who guide and direct must understand the details of practice through having done the work before they can so much as understand the science in which they specialize. The educational specialist must certainly not be a narrow specialist. He must be as general in his ability as it is possible for one to be. But the tasks are so large, the ramifications are so numerous and so intricately entangled one with another, that we must specialize our work in order to bring our labors within the bounds of human possibility.

The primary functions of educational directors and supervisors, as relating to methods, are therefore: first, the discovery of the best methods of procedure in the performance of any particular educational task; and second, the giving of these discovered best methods over to the teachers for their guidance in securing a maximum product. Since so few methods, demonstrably the best, have yet been discovered with entire certainty, it is impossible yet to devote any very large amount of time to the function of distribution of this information to the teachers. This leaves the major work at the present moment in the realm of discovery of best methods, it would appear.

Schools must not experiment on the children? As a matter of fact, they are not doing much else at the present moment. Mr. Marker's study showed that they are experimenting in the teaching of the English language in almost every conceivable fashion through the country. "Trial and error" is itself nothing but blind experimentation. We can be reasonably sure that it is in the wrong direction about half the time and in the right direction about half the time. Work that looks in all directions will distribute itself in about this fashion. Rational experimentation under the guidance of the best educational light at our command cannot possibly go wrong more than half the time; and there-

fore cannot possibly be worse than the present mode of experimentation. The chances are very great that it can change the balance very considerably so that it will look in the right direction much more than 50 per cent of the time and in the wrong direction much less than 50 per cent of the time. There is no bottom to the argument that schools must not experiment.

As a matter of fact, however, there is not at the present moment any great need of setting new experiments on foot. There are already so many going on. If 50 per cent of these random experiments going on at the present time look in the right direction and 50 per cent look in the wrong direction, the immediate problem is a statistical comparison of the relative amount of results that is obtained from these various practical experiments. For guidance in the performance of this task, scales of measurement are largely lacking; but these will be at hand the moment there is a practical demand for them. The chief supervisory task of the present moment relating to methods is to take these scales of measurement and the forms of statistical organization and to measure the relative efficacy of the different methods used. While scales of measurement at the present time in many fields cannot be sufficiently delicate for finding the one absolutely best method, still scales such as we have and such as we can develop immediately are sufficiently delicate, it would appear, for measurements that can fairly definitely locate the 50 per cent of experimentation that looks in the wrong direction. If it can perform no more than this, it alone would mean tremendous progress in the ability to supervise the workers. Supervisors could say definitely that certain methods could not be used under any circumstances and that the range of experimentation must be confined to the group that is shown to be the more superior.

Let us illustrate with a concrete example or two. Suppose among schools that give sixty minutes per week to drill in penmanship, it is found that one group of schools distributes the time into thirty-minute periods twice a week; another group of schools has twenty-minute periods three times a week; another group distributes the time into twelve-minute periods of drill five times a week; a fourth group distributes the time into six-minute periods ten times a week, or a short period twice each day. Now suppose each of these groups of schools to be measured in the first week of the school year by the Thorndike or the Ayres writing scale as to quality, and tested by the stop-watch

as to speed. If they are then measured again at the end of the year in the same way, it is possible to determine which of the modes of distributing the sixty minutes of time for teaching the writing is the superior. Groups can be large enough to neutralize disturbing factors. If the six- and twelve-minute distribution secures larger results than the twenty- and thirty-minute distribution, then this factor of method in teaching handwriting is partially solved. While we have not definitely established just which length of period is best for the work, yet we have definitely shut out the longer periods of twenty and thirty minutes and we must definitely limit the length of drill period to a possible maximum of fifteen minutes. More delicate, more discriminating comparisons will have to be made before we can decide just where between the five- and the fifteen-minute period we would best fix the drill time in order best to distribute sixty minutes of drill so as to secure the maximum product. But if the supervisory staff has only the rough determination as the result of its comparative studies, it is prepared to give something over to the workers that is definite, authoritative, and usable, and a thing which the workers could not determine for themselves. The supervision under the circumstances is able to do a portion of its share in the labor of securing the product. It furnishes the demonstrably rational guidance for the worker which the latter could not secure for himself. Each supplements and assists the other in securing the product, the ultimate end of the labor of both.

The distribution of time into periods best for one grade may not be the distribution that is best for other grades. The same kind of comparative problems have to be worked out for each of the successive grades from the beginning of the teaching of this subject up to the time when the class reaches the ultimate standards set for them. The problem as stated above is how to distribute sixty minutes of drill. Another series of problems is the determination of the total amount of drill per week, whether it should be twenty minutes, forty minutes, sixty minutes, or one hundred minutes per week; and this again in connection with each of the different grades in which writing is to be given. The amount of time used and its best distribution offers therefore a very large number of problems to the directing and supervising staff in education for solution by comparative methods. This probably can be done without setting into operation any experiments in addition to those already going on.

The time employed in drill is but one of a number of factors of method. Other factors of method are: the series of drill exercises used, the distribution of time among the different kinds of drill exercises, the speed of the practice, the kinds of materials used in the practice, the different systems of arm-and-finger movements employed, sitting position, the slope of the desk, the nature of the copies presented, the time of day, the fatigue factor, the length of time elapsing after active physical exercise, the motives and incentives employed in stimulating the pupils, and the writing specialist will probably add a few other factors. In connection with each of these factors it is possible to determine by means of statistical comparisons of scale measurements the better and the poorer method of controlling each of these various factors for each of the various school grades. The problems of writing present therefore several score problems that will have to be worked out by co-operative and comparative study of the present situation before supervisors can adequately perform their share of the task in directing and supervising handwriting. If the determination of the better and the poorer modes of controlling each of these factors would result in the case of each one of them in an improved efficiency of one-half of one per cent only in each of the grades, the combined improvement would mean a doubling of our efficiency in the teaching of penmanship, or in other words the elimination of 50 per cent of waste, the release of 50 per cent of the teacher's time for other tasks.

It is clear that supervisors cannot perform their half of the task, that of guidance, on the basis of science, until they have the science on the basis of which to guide. In the past the supervisor has usually been one of the most successful and most experienced of the teachers, promoted on the basis of his relative standing. In the matter of empirical information he is superior to the younger, less experienced, less capable teachers, and is able out of his more successful experience and his observation to give them a quantity of good advice and instruction as to methods to employ. But in the case of experienced teachers, those moderately successful and those highly successful, the degree of difference between the teacher and the supervisor is so slight that the latter is unable to perform any large portion of the labor of securing the educational product. In connection with those who are best able to use his help, he can give little or no help in the way of methods. He is but a specialist of their own type, and

not a specialist of a supplemental type. He is compelled to give his better teachers almost complete freedom in the way of methods used. This tends to paralyze his efforts toward using his authority in the direction of methods even in the case of the younger and weaker teachers. The situation creates a system of privileges and immunities claimed by all the teachers in the matter of freedom to go wrong as much as they please in the selection of their methods.

When the conscientious, hard-working supervisor earnestly desires to perform his share of the task in connection with his strong teachers—under ideal conditions all are strong teachers—he finds himself unable to do so because of the almost total dearth of scientifically formulated information as to what constitutes the best control of the various factors of method. He has opinions; other men of equal ability have neutralizing opinions. This leads him to a distrust of his own opinions. When he turns to the literature of his profession for guidance, he finds more opinions, and then in a second book still other opinions which tend to neutralize those of the first book. From opinions based upon “trial-and-error” practice, he has merely turned to opinions based upon “trial-and-error” theorizing, and has not improved his situation.

For such men—and they grow more numerous day by day as we see how the rest of the world is forging ahead of us in the application of science—there is but one avenue of escape from the present condition of relative helplessness in the ability actually to direct and to supervise methods. This is the definite measuring of practical methods as they are actually employed at present.

It may be urged that the well-informed supervisor has at his command certain general principles of education that, like the fixed stars in the case of the mariner, can be used for guidance in the details of educational procedure. On the basis of these general principles it is possible to deductively determine the processes to employ in the details of teaching. His work of guidance is to see that the teacher is at all times fully alive to the nature of these guiding principles, and that she employs them in the formulation of her methods, and always measures her methods after they are formulated up against these general principles to see that the methods are correct. The weak teacher is the one who has not a command over these various general principles sufficient to make the various necessary deductions in the case of any specific situation. The supervising problem, in such a case, so far as methods go,

is to bring about a further realization of the principles in the teacher's mind and to help the teacher to the power to use the principles with certainty in devising the various daily tasks. In judging the work of teachers, weak or strong, the plan to be pursued on the part of the supervisor is to see how exactly the processes obey the general principles.

This sounds well, to be sure, and it was possible for the older school of writers on supervision to expand it into an entire volume. One does not know, however, what poor help these so-called principles furnish until one tries to apply them to concrete tasks. Suppose one gathers together all of the general educational principles that he can find, and on the basis of these principles tries deductively to determine answers to the problems of method presented by the teaching of handwriting as stated above. How many can he deductively solve with his principles?

From the general educational principles which govern in arithmetic the teaching of addition, to take another example, what are the most effective methods to use? Let us suppose for purposes of illustration that for a given class of boys the ultimate standard for speed in addition that has been set is 80 combinations a minute to be reached at the age of eighteen when these boys leave their vocational training. Now in the light of the general principles, at what age shall the 45 addition combinations be taught? What total amount of time per week is to be devoted to addition drill during the year when they are taught? What total amount of drill is to be given during the second year thereafter, the third year, the fourth year, and so on up to the time when the ultimate standard is satisfactorily attained? What shall be the distribution of the weekly drill time into periods for the first year of the work, second year, third year, fourth year, and so on through the series of years? What are the addition combinations that require much drill, what are the ones that require a medium amount of drill, and what are the ones that require but little drill? What time of day is best for the work? Should the drill be oral or written, or should there be a combination of the two? Is it best performed with abstract examples, or in connection with concrete problems? Shall drill exercises be furnished by the book, by the blackboard, or by teachers' dictation? Should the drill consist of many short exercises or fewer longer exercises? What is the effect of using the incentive of emulation in the economical securing of the product? What is the value of using exercises that involve the vocational motive or the civic motive?

Now, as a matter of fact, do we have scientific principles of education of a general sort on the basis of which these questions can be deductively answered with scientific certainty—such certainty as the farmer can use in the scientific control of his operations, or with the scientific certainty that the steel-cutting machinist can use in his operations? It is evident that our so-called principles will not serve our purpose in answering these questions. The principles are too vague, too general, too empty of content. A good many of them are probably pseudo-principles, speculatively, not scientifically, determined. They offer a form of support which the intelligent supervisor, in an age of applied science, uses with many misgivings. Since addition is almost the simplest task to be performed by education, if the principles will not guide here it would be strange if they were a safe guide in the more complicated portions of the work. Analogous problems are presented by every educational task, the more complicated ones presenting many additional factors.

The business world shows us how to proceed more nearly than any illustration that I can take from the educational field. The Harri-man railroad system, embracing about 19,000 miles of railway lines and employing about 80,000 men is divided into some thirty relatively autonomous divisions. Over each of these divisions is placed a general manager having his own exclusive expert staff. In the central office in Chicago is the Director of Maintenance and Operation of the entire system, also with his expert staff. In the original organization, in the performance of any given task, each general manager with his expert staff was permitted entire freedom of initiative in the determination of the methods to be employed. The expert workers in the Chicago office did not interfere in any way with the methods employed in the different divisions. This central body confined its efforts solely to careful scientific studies of the relative efficacy of the different methods employed in performing any given task in the different divisions of the system. When their studies showed clearly and unmistakably that certain methods were producing distinctly better results in certain divisions than other methods were producing in other divisions, then the group of better methods was definitely prescribed for the use of all of the divisions; and the group of methods clearly inferior was discarded and forbidden to any of the divisions. After this step was made, the process continued. From the better group of methods, one division

chose one form, and another division chose another, and the practical experimentation continued. The purpose of doing the work in each division was not to experiment; it was to get results. It was, however, experimentation under perfectly normal conditions of experiment. It was natural, not artificial, experimentation. The central office in Chicago, continuing its careful studies of the relative efficacy of the various methods of this better group, after a time was able to say definitely that certain of those methods were superior to certain others. This led to a still further discarding of inferior methods and the still narrower limitation of the experimental efforts of different divisions.

This process leads to a gradual narrowing of the variety of possible methods to use in connection with each of the various tasks of railroad management. It means a more and more intensive study of the specific factors that enter into the few or even the single method that has shown itself distinctly superior to the others. But perfection in so complicated a field is not possible. There is always room for further study of one factor or another in the performance of any task, it would appear. This method of finding the best modes of procedure definitely closes the door to experimentation along lines that are clearly proven inferior. It consciously leaves the door open as wide as possible for every kind of experimentation that looks toward further advance. It standardizes methods by cutting off the avenues downward but does not cut off the avenues upward. In promulgating standard methods, it says to the various divisions: "The use of methods that have been proven inferior to these standardized ones is hereafter forbidden. You are, however, encouraged and will be rewarded for taking the range of methods to which efforts are now limited and perfecting them still further." The result has been that the Harriman railroad lines have presented to us the highest example of efficient railroad management on a large scale.

This example shows a plan of work that may well be adopted in modified form for the determination of educational methods. The expert staff in the central office of our large city systems could at the present time perform no higher task than this analysis of the relative efficacy of methods that are being employed in the different schools of the city. Some of our leading cities have definitely undertaken this task in simple fashion. The expert staffs in the offices of the state superintendents can, when they so desire, undertake the work in connec-

tion with all of the schools of the states. All this naturally would appear to be a wasteful duplication of effort unless there was some method of co-ordinating efforts, and a dividing-up of the problems. The strategic position of our national Bureau of Education with its expert staff is clearly evident. It is a bureau the possibilities of which need to be discovered by those so much in need of its labors.

Does not responsibility for investigation rest upon the universities, while only responsibility for "practical" work rests upon those in the field? Scientific management refuses to admit this. Responsibility for finding the best methods rests upon those who are responsible for directing the work. The railroad lines described do not depend upon the universities for devising methods for them, and they could not. Only the railroads have the things to be compared on the basis of which determinations can be made. In education it is only the school systems that have the practical experimentation going on, on the basis of which the necessary determinations can be made and poor methods separated from the good. The relative isolation of the university stands in the way of its being able alone to accomplish very much. If in a city or state, however, where a university is located, the university departments of education became, co-operatively at least—there need be no official bonds of connection—a portion of the expert staff engaged in the direction, supervision, and investigation of education in that city or state, the university might accomplish an enormous amount of work for the school systems concerned and at the same time perform its own function in the way of educational training of prospective teachers with greatly augmented efficiency. The isolation of the two forms of organization is, in fact, disastrous to the efficiency of both. Universities are rapidly becoming willing and ready to enter into such co-operative work. The same readiness and willingness is becoming equally evident within our progressive public education systems. It is time to get together.

From some of the preceding sections, it can be observed that the various problems to be attacked are bewilderingly numerous. In this connection, however, one must note that the number of workers is also very great. We have 1,241 superintendents of cities of 5,000 population and over. We have a still larger number of county superintendents; a yet larger number of building principals and supervisors of various sorts; 48 state departments; 581 colleges and universities,

in the majority of which education is given some attention, and in many very large attention; 288 public and private normal schools; and the rapidly expanding United States Bureau of Education. Engaged in co-operative work, with specialization and division of problems and a central bureau of publicity, an incalculable progress is easily possible.

An association of German brewers in 1862 adopted the following declaration as the corner-stone of their faith and of their practice: "Science is the golden guide-star of practice. Without it there is nothing but a blind groping in the unbounded realm of possibilities." In commenting upon this utterance, a leading metropolitan newspaper of our day has to say:

"The wisdom of that utterance of German brewers is the key to all the miracles of German progress. The German genius did not scorn that exact knowledge and systematic method which is science. It made it its golden guide-star. It did not dismiss the professor as an amiable theorist living in a remote realm of his own, useless in practical affairs. The German genius honored science, not academically but actually, and, honoring, sought its service. This wisdom science has repaid richly—and always will repay."

It is equally important that science be put in control of the processes that shape the elements of human character.

IV. QUALIFICATIONS OF TEACHERS

Principle IV.—Standard qualifications must be determined for the workers.

The determination of more or less definite qualifications for the various aspects of the teaching personality is necessary for the efficient performance of a number of other labors: the setting-up of the requirements to be met before entrance into the profession; the laying-out of courses of training for teachers previous to their service; selecting the elements of training necessary for each group of teachers during service; appointments; promotions; reductions in rank; transfers of teachers from one line of work to another; the vocational guidance and placement of teachers previous to and during their service; the retirement of teachers; the measurement of the individual teacher in each aspect of the teaching personality; the determination of the teacher's total ability; the comparison of the relative abilities of different teachers; with perhaps a number of others equally important.

Different types of work call for different types of workers. A policeman should be large and strong, while a jockey should be light and agile. A stoker, or a ditch-digger, under present conditions, would better be of sluggish mentality; whereas a lawyer or a banker requires keen and ever-alert intelligence. The primary teacher should perhaps be one who is by nature most interested in concrete realities and motor activities, whereas the teacher of relatively mature individuals should be one whose primary interests lie in the larger and more abstract relations, one who is by nature of wide intellectual vision. The nature of the work and the methods to be employed point out the qualities of personality that should be possessed by the worker.

The conscious development and application of this principle of management is to be found most clearly exemplified in the business world and in the sporting world; in less clear fashion, it is employed in the civil service, in army and police circles, and in the professions, among which our own in the conscious use of the principle presents a good example. The business world, however, furnishes us with one of the best examples for our purposes. Some years ago when the bicycle industry was at its height, Mr. Taylor, the efficiency engineer, was called upon to reorganize a large bicycle factory and to make it as efficient as was possible. His first step was what he called the scientific selection of the workers.

Among the various types of workers, there was, for example, a group of 120 girls engaged in the task of inspecting the small steel balls used in the bearings. The method employed by the girls was to let a stream of balls run slowly along the back of the hand between two fingers, examining them through a hand-lens held in the other hand, and picking out and discarding all of the balls that were firecracked, dented, or otherwise defective. The work required clear vision, quickness and deftness of movement, and long-continued mental concentration. Evidently the girl whose vision was defective, whose movements were slow or badly co-ordinated, or who was unable to bear the strain of continued mental concentration without undue and chronic fatigue was unadapted for the work. The girls had been taken just as they came when there happened to be a vacancy without any consideration as to whether they were by nature adapted or unadapted to the work.

Mr. Taylor began his task by setting up within the factory a psychological laboratory, and studying the native aptitudes and qualities of the girls. The "perception-time" and "reaction-time" of each of the girls was carefully tested. Those of slow perception and reaction were transferred to other labors

in the factory, or discharged; and only those were retained who were quick both in perception and reaction. Laboratory tests were then made of fatigue due to mental concentration; and those who were unable to bear the strain of such work were removed, and only those whose nature made mental concentration relatively easy were retained. Tests of visual acuity, weeding out those of poor vision, came in connection with the reaction-time experiments.

After this scientific selection of the workers was accomplished, together with certain other administrative matters, such as cutting down the length of the day from ten and a half hours to eight and a half hours, the giving of four rest periods in addition to the noon hour, which cut the day down considerably further, and otherwise looking after the health of the girls, also the scientific determination of right standards of performance and the standardization of the best methods of work; the result was that thirty-five girls did the work that formerly had been done by the entire one hundred and twenty, and they did it with 60 per cent greater accuracy. The result was gain on every side. For the girls, their wages were doubled, their time for leisure occupations very much extended, and their health improved; for the management, there was a saving of 50 per cent of the original cost; for the benefit of the general public, there were lower costs on the one hand and the release of eighty-five of the workers to be employed in other lines of production, thus greatly increasing the total product of the girls. The illustration shows in the most unmistakable manner the possible benefits to all of putting the right workers into the right place and devising scientific methods of direction, of supervision, and of work.

The common expression that "teachers are born, not made" indicates a very general recognition that there are certain types of personality that are well adapted for the work of teaching while there are other types of personality that are ill adapted for this work. Now, what in exact terms are the native personal attributes of such an individual? The problem is not so simple as the one of the factory girls; still our psychology is not quite so halting as to be unable to perform the task. The psychologists have the technique with which to solve the problem. Their task appears to be first to locate a fairly large sample of the best 5 per cent of teachers in the profession, those who in their original nature most probably possess the native elements, rightly proportioned, of the so-called "born teacher." The second task is to analyze out and to define in reasonably definite terms the characteristics of personality which this group of teachers exhibits. Since teachers are specialists in various ways, such determinations are needed for each of the various special groups. With such a schedule of native qualities in hand, the directors of education are in a position to select rationally those best

fitted by nature for any given department of teaching. Such individuals will take the necessary training easily, both the preliminary training before service and the continuous training during service. With this indispensable foundation for vocational guidance, the supervisors will not have to expend the major portion of their energies in the distressing and exhausting labors of directing and supervising teachers who ought never to have got into the service, or who ought to have been placed in some other department of it.

It is necessary for the higher levels of supervision that the work of the building principal be predetermined as completely as that of the teacher. This is impossible unless we predetermine the amount of supervisory help that will have to be given by knowing in reasonably accurate terms the character of the teachers admitted into service under any given principal, both on the side of native qualities and aptitudes, and the acquired qualities of training. This cannot be known without scales and standards of measurement in terms of which to state the ability of the teachers of any given building.

In its general outlines, this principle is fully accepted in the educational world. Scholarship must rise to certain levels as shown by academic training received in certain subjects and courses, and by prescribed examinations in certain subjects. Physical examinations are commonly required in our progressive city systems; and also a number of social qualities of a much less defined sort are required in fact, though not usually stated in the list of requirements.

The more definite standards of qualifications are set up in the realm of acquired qualities. While both native and acquired qualities are indispensable, yet the native ones are primordial, and certainly are the ones first to be taken care of. When this is done, when individuals of right qualities are selected, the largest factor of the training process is, in fact, cared for. They take training easily. In the case of those whose natural native qualities are not rightly proportioned, not all the training possible can make good teachers of them; training can only bring out the latencies.

The tendency at present among certification and rating systems is to emphasize more and more those native qualities. The burden of responsibility for rational vocational guidance into all fields of human labor is rapidly being laid on our schools—where it belongs. The first field of its performance on the part of the educational profession, might well be

the devising of a reasonably complete system of rational vocational guidance for those who enter our own profession and for those who are to be moved along the ranks during service. Certainly the first step is to devise the complete schedules of desirable native qualities. The tendency to include such qualities is well illustrated by the method of certification in the state of Indiana, for example. In this state, in certificating a teacher who has previously taught, he is given a "success grade" which is of equal weight with the mark received upon examination in determining the teacher's standing. The "success grade" deals in part with the qualities conferred by training; it is also in very large measure a judgment as to the native qualities of personality possessed by the teacher. A detailed score-card is furnished on the basis of which the success grade is given. The following is the schedule of qualities considered desirable and their relative weights:

The Teacher	100 per cent
A. Personality	20 per cent
1. Physical: health, habits, industry, ability to do things, cleanliness, neatness of attire.	
2. Mental: moral worth, habits, disposition, temperament, individuality, power of initiative, self-control, sarcasm, sincerity of purpose, attitude toward children, ability to meet people.	
B. As a student	15 per cent
1. Lines of study pursued.	
2. Lectures attended.	
3. Vacation schools attended.	
C. Professional development	15 per cent
1. Problems of teaching studied.	
2. Work in township institutes or teachers' meetings in cities and towns.	
a) Preparation.	
b) Presentation.	
3. Attitude toward educational meetings.	
a) Attendance.	
b) Participation.	
4. Lectures attended.	
5. Vacation schools attended.	

- D. As an instructor 20 per cent
1. Preparation.
 - a) Before coming to class.
 - b) Assignments.
 - c) Skill in bringing the pupils into the right conscious attitude for the new truth to be presented.
 2. Presentation.
 - a) Knowledge of the mind of the pupil.
 - b) Knowledge of the matter to be presented.
 - c) Knowledge of ways of presentation.
 - d) Skill in presentation.
 3. Comparison of interpretation based on children's experiences.
 - a) Skill in keeping the minds of all the pupils centered on the new truth being presented, and upon their own experience that will help them interpret at the same time.
 4. Generalization.
 - a) Skill in leading pupils to draw correct conclusions and to state them well.
 5. Application.
 - a) Skill in making pupils realize the new truth as their own. Ability in leading pupils to discover that school problems are life problems.
- E. Government 15 per cent
1. Two ways.
 - a) Through the conscious use of rewards and punishment.
 - b) Through the inspiration of personality.
 2. Two types of order.
 - a) Constrained, unnatural and dead.
 - b) Free, natural and alive with the busy hum of industry that accompanies the understanding that each pupil is to do his work without disturbing his neighbors.
- F. Community Interest 15 per cent
1. As illustrated by—
 - a) Ability to keep pupils from withdrawing from school.
 - b) Ability to secure regularity in attendance.
 2. As illustrated by—
 - a) Ability to send common-school graduates to high school.
 - b) Ability to send high-school graduates to higher institutions.

3. As illustrated by—

- a) Care of school property, keeping records, and making reports.
- b) Sanitary conditions, decorations, and neatness.
- c) Ability to establish libraries and young people's reading circles.
- d) Co-operation with teachers, supervisors, and school officials in school plans, exhibits, and meetings.
- e) Part taken in the plans and affairs of the community.¹

Professor Edward C. Elliot presented to the second annual state convention of city superintendents, held at Madison in 1910, the following outlines of "A Tentative Scheme for the Measurement of Teaching Efficiency":

TOTAL TEACHING EFFICIENCY.....	100 points
I. PHYSICAL EFFICIENCY—12 points.....	(12)
1. Impressions—general	2
2. Health—general	2
3. Voice	2
4. Habits—personal	2
5. Energy.....	2
6. Endurance.....	2
II. MORAL—NATIVE EFFICIENCY—14 points.....	(14)
1. Self-control	2
2. Optimism—enthusiasm.....	2
3. Sympathy—tact.....	2
4. Industry—earnestness	2
5. Adaptability	2
6. Sense of humor.....	2
7. Judicial mindedness	2
III. ADMINISTRATIVE EFFICIENCY—10 points.....	(10)
1. Initiative.....	2
2. Promptness and accuracy... ..	2
3. Executive capacity.....	2
4. Economy (time, property).....	2
5. Co-operation (associates and superiors).....	2
IV. DYNAMIC EFFICIENCY—24 points.....	(24)
1. Preparation.....	4
Including:	
a) Intellectual capacity.	
b) Academic education.	
c) Professional training.	

¹ *Report of the Superintendent of Public Instruction of Indiana, 1908, pp. 632-33.*

2. Professional attitudes and interest.....	2
3. Human nature attitudes and interest (Appreciation of values—intellectual, social, and moral, in child life)	2
4. Instructional skill.....	12
Including:	
a) Attention and interest of pupils.	
b) Formality v. vitality of instruction.	
c) Motor v. verbal methods.	
d) Application of the technique of teaching; organization and presentation of subject-matter; the recitation as artistic product.	
e) Application of the technique of living; par- ticipation and contribution of pupils; the recitation as a democratic activity.	
f) The tools and machinery of instruction; effec- tive adaptation.	
g) Assignment of work.	
5. Governmental and directive skill (discipline).....	4
V. PROJECTED EFFICIENCY—6 points.....	(6)
1. Continuing preparation.....	2
a) Daily; b) Weekly; c) Annual.	
2. The school program.....	2
3. Increase of professional equipment (professional reading and study; travel).....	2
VI. ACHIEVED EFFICIENCY—24 points.....	(24)
1. Achievement.	
a) Illustrative results.....	8
b) Examinations; success and attainments of pupils	12
2. Stimulation of individuals and community...	4
VII. SOCIAL EFFICIENCY—10 points.....	(10)
1. Intra-mural interests.....	2
2. Extra-mural interests	
a) Cultural and ethical.....	2
b) Civic	2
c) School—patrons	4

These two schedules indicate a practical belief in the possibility of drawing up definite plans and specifications which exhibit the elements and proportions of personality that are necessary for the fully equipped teacher. Except in matters relating to scholarship, however, the standards of judgment are yet rather indefinite; and they are as numer-

ous as individual supervisors making judgment. In the case of the factory girls, to recur to our parallel example, anybody could know on empirical grounds that quickness of movement was a necessary quality of the worker; and the observant foreman could tell in an uncertain sort of way who was quick and who was slow. His judgment, however, was necessarily uncertain, frequently mistaken, and always quantitatively indefinite. And this uncertainty was paralyzing to effort. It seemed preferable to make no selection on the basis of native quickness, because of the frequency of mistakes, the consequent injustice to individuals, and consequent demoralization of the entire corps of workers. Scientific laboratory measurements, however, completely changed the situation. Empirical vagueness and uncertainty gave place to absolute certainty. It was possible in the case of any particular girl to say without any shadow of doubt whether she belonged to the rapid class, the class of medium speed, or the slow class. Then, when the supervisor could act with certainty, when the workers could understand the reasons for the action and could know positively that there was no injustice being done and no possibility of injustice, all mischievous inhibitions were removed. It was possible instantly to transfer any worker who was in the wrong place. It could be accomplished with benefit to all and with injury to none.

Now, in the educational field, in using the schedules given above, we are yet, with the exception of the academic subject-matter, in the empirical stage of indefinite, uncertain estimation of the matters involved. Our profession must advance along the same road as that already traversed by the best of the industrial world before we shall be able to place our workers with the same efficiency, justice, and certainty.

For the schedule of acquired qualifications, the fixing of standards of scholarship in the subject-matter of academic courses is a relatively easy task, one already so well understood as to require no discussion here. Not so easy to handle, however, are many of the other non-academic but no less necessary acquisitions. As a matter of fact, the so-called "born teacher" is not born full-grown. Every desirable native quality must be developed and trained. Each latency must be awakened into the necessary actuality. Rightly proportioned ability in each of the characteristics in the list given above requires training just as definitely and as imperatively as ability in the field of academic subject-matter. In the one class as in the other, right unfoldment of latencies can be

accomplished only with right training, and in most cases with much training.

In a previous section, we noted the one-sidedness that inevitably occurs in setting up relatively exact quantitative standards in some portions of a field of work to the neglect of such standards in other portions of the field. Now the same thing undoubtedly occurs in the case of the training, certification, rating, and placement of teachers. To standardize in relatively accurate terms the requirements for academic subject-matter and not to standardize other just as necessary aspects of personality, aspects in fact more difficult to secure, is to bring about a one-sidedness in the training and the character of the teacher, in ways so obvious as to require no statement here. The world calls the teacher a one-sided creature, and the one-sidedness of which we are accused is of exactly the type to be expected from these quantitatively definite requirements for certain aspects of personality and the neglect of such requirements for the more general human and social aspects. Now to bring about all-sidedness in desirable proportions, it appears to be altogether necessary to have a schedule that is all-sidedly definite. Vagueness of requirement always means neglect. Requirements that are always met are definite ones.

In the first paragraph of this chapter we enumerated a list of the supervisory values of such definite schedules of qualifications. We have space for only brief discussion of a few of these. One of the large problems of the supervisor is the treatment of weak teachers. Teachers are weak, however, in different ways; and one must locate the exact weakness before effective treatment can be administered. One teacher is weak in academic qualifications in the field of subject-matter; another in her academic understanding of standards, methods, and teaching processes; another has a very limited mental horizon, and does not see the elements of her work in academic perspective; another has no proper social horizon, and fails to see the elements of her work in their social relations and uses, actual and prospective; another is lacking in energy, endurance, physical buoyancy, and flexibility, though she may be very well equipped in every other way. The list of possible weaknesses is, in fact, just as long as the list of desirable qualities of personality. Weakness may occur in any one of them without occurring in any of the others.

In handling the weak teacher, the first task is to analyze out the exact nature of the weakness; second, to determine its relative intensity;

and third, to adjust the treatment to the specific weakness, in the right degree. This analysis requires definite terms in which to think and definite scales with which to measure. The schedules of standard qualifications present these necessary bases of analysis.

All teachers need to have these schedules of qualifications set before them, since they show in clear and unmistakable terms the necessary goals of effort toward high attainment in the various aspects of teaching character. And they serve as one of the greatest possible stimulations to proper effort. When teachers have before them definite things to be attained and definite levels to strive for, they can aim intelligently and can guide all their efforts intelligently. Even the strongest of teachers have their special weaknesses and their special proneness to weakness in some aspect of their being. Human nature of a high social sort is constructed in such fashion as to presuppose these social goals and these social stimulations, even in the case of the best and strongest. High character, in fact, requires strong and complicated supporting structures in far greater measure than low character. It is possible that when teachers can know definitely what is wanted of them, what is expected of them, on the part of the management, then it is at least probable, considering the abundance of good-will and conscientiousness on the part of teachers, that the major portion of the task of removing weaknesses in the teacher is taken off the shoulders of the supervising staff.

Scales and schedules of qualifications serve as the bases for the right placement of teachers. This value is of course altogether recognized in the matter of academic qualifications. Those who have had longest academic training are made teachers in the high school and those with shorter training are made teachers in the elementary school. A teacher in the high school is given charge of the department of work in which he specialized in the university; and so through the list. It is not so well recognized, however, in the matter of qualities other than the academic. It is possible in our schoolrooms to find motor-minded individuals set to the task of giving instruction in intellectual fields requiring intellectual analysis and wide intellectual vision, with disastrous results. It is possible, on the other hand, to find the intellectualist turned loose in our shops, and kitchens, and school farms, and spoiling all the work by academicizing it. It is possible to find building principals who are not community leaders by nature or experience given the responsibility for the community leadership in education. In the

last conservation congress held at Indianapolis, one of the most startling statements made, but one which was unchallenged because of the general feeling that it required no statistical evidence to give it weight, was: "Don't expect to find in strikes the greatest industrial waste, it will be found in the wrong employment of men. Out of ten men, probably one fills the job that he ought to be filling; and out of ten jobs, probably only one is filled by the man who ought to be engaged for it."

After the long amount of weeding along the entire academic line, and considering the correlation that exists between the intellectual qualities selected and other desirable personal and social qualities, the above estimate of misfit is certainly altogether too large for our profession; but except in degree there certainly is in education the same irrational placement of a large portion of its workers. The proper placement of teachers includes original appointment, promotion, reduction in rank, transfers, and retirements. Present methods of appointment are based upon a portion of such a schedule. Current methods of promotion are based upon increase of merit as shown by the taking of extension courses, by passing further examinations, or increase in length of experience. Arranging promotion according to length of experience is very common. It recognizes that those should be promoted who have the greatest ability, and it presumes that those who have taught longest have greatest ability. As a matter of fact, however, some of those who teach for a long time improve, some remain stationary, some actually decline in ability. If Mr. Bardeen is correct, there is a period of improvement of moderate length, a short stationary period, followed by a long period of decline, in the case of most teachers. Now to arrange salary schedules and promotions on the basis of length of service, while one of the best methods we have at present, is certainly highly inefficacious. One ought, in fact, to be promoted as rapidly as he can advance. He ought to become stationary when he fails to advance. He ought to be reduced in rank when he retrogrades in teaching ability or in teaching character. These further improvements of present plans, however, cannot be accomplished until we have a means of more definitely measuring teaching character and ability. The inability rationally to control promotions and reductions in matters both of position occupied and accompanying salary leaves the supervisory staff relatively powerless to control incentives and to stimulate effort, both for the development of teaching character, and for the securing of a large educational product.

No organization of men, performing any kind of work whatsoever, can so much as hope to become efficient until it can control incentives and stimulations. So long as teachers can lie down in the work and yet be advanced up the scale of promotion by the mere machinery of the organization, it must remain upon a relatively low plane of efficiency.

V. PRELIMINARY TRAINING OF TEACHERS

Principle V.—The management must train its workers previous to service in the measure demanded by its standard qualifications, or it must set up entrance requirements of so specific and detailed a nature as to enforce upon training institutions the output of a supply of workers possessing the desirable qualifications in the degree necessary for entrance into service.

Although much neglected in actual practice, this principle appears to indicate one of the major supervisory functions. Since the function is so completely neglected at times as to indicate no recognition, the statement will perhaps require some justification. The first justification lies in the fact that the nature of the work that is performed by the supervisory staff is in large measure determined by the entrance qualifications which new workers bring with them when they enter the service. If these entering teachers have been trained in low degree, or if they have been trained to improper methods of work, then the supervisory members must expend a large excess of labor in giving training to young teachers which ought to have been accomplished in the preliminary course. If, however, the younger teachers have been trained in a superior manner, then the amount of supervisory energy required for each teacher is very much less and it can be expended on a much higher professional plane, and look toward very much higher attainment. Any form of labor that will reduce the work of the supervisory staff to one-half in amount and at the same time place it upon a higher plane, is a legitimate portion of the work of the supervisory members. Unless the function is performed by one or other of several methods, the organization cannot hope to attain anything like maximum efficiency.

Looking at the matter from another viewpoint, it is clear that the responsibility stated in the principle rests upon the management of city school systems because of the relation existing between the city organization and the teachers' training institutions. These institutions are

preparing a product for use in the city school systems. It is for the school system that uses the product to say what the nature of the product is to be in all necessary details which is turned out for their use by the training institutions that are engaged in ministering to their necessities.

This relation is perfectly clear in the case of training institutions within our large cities which are integral portions of the city school system and in which the major portion of the entering teachers are trained. If our principle states the relationship correctly, the city training school cannot be an autonomous institution, with the general nature of the work left to the principal of the school and the details of it left to the heads of departments. It appears to be clearly the function of the management of the city school system, the supervisory staff, to say in minute detail what shall be the qualifications of the output of the training school; and this means the determination of the elements that enter into the training curriculum. This appears to be best accomplished in those cities where the directive faculty of the school are at the same time portions of the general supervisory organization of the city. Most progressive cities show this in the practice teaching work, and some are coming to employ it on the side of the instruction.

The performance of this function is not quite so simple in the case of smaller cities, villages, and rural districts that cannot have their own training institutions. At the present time they are more or less at the mercy of relatively autonomous and therefore—so far as the cities receiving their product are concerned—relatively irresponsible institutions. These institutions can turn out what they will, regardless of the wishes of the cities that are to receive their product; and the supervisors must take what they can get. It may be what they need, and it may fall considerably or even greatly below it. The cities themselves are relatively powerless to prescribe the product that is to be turned out for their use by the training institutions.

In practically all cities this is the situation obtaining in secondary education. Training institutions turn out what they will; and city school systems, in employing high-school teachers, feel that they must take the product whether it is of the kind they need or not. In many quarters they are coming to be very firmly of the opinion that their particular needs were but little considered in the shaping of the product that was to go to them. So long as secondary education included only

college preparatory institutions, and college-trained high-school teachers were only college preparatory teachers, the situation was probably not so serious. At present, however, cities are coming to demand of their secondary schools the education of the entire adolescent population between the ages of thirteen and seventeen or nineteen. They are coming to demand that this adolescent education train for actual life in the world of affairs; that it adapt itself scientifically to the various needs of different social classes; that it adapt itself carefully to the individual needs of different types of students; that it be psychologically adapted to the needs of the various stages of adolescence, the most complicated and the most difficult, sociologically and psychologically, of all of the stages of growth. The problems presented are endlessly numerous and complex. The professional training needed of secondary teachers is obviously far greater in amount than the professional training of elementary school teachers. A portion of the training needed by such teachers is naturally training in the special subject-matter which they are to teach; this, however, is probably the smaller portion of the training needed by such individuals.

With this serious situation confronting the directors of secondary education in our cities, they can no longer neglect the performance of this legitimate and necessary function of control, by one method or another, over the training given by the institutions that are supplying them with trained workers. Since the cities are using the product of the colleges, it is for the cities to say what this product shall be. Merely to complain that the product sent to them is not of the right type is not to perform the function. They have the same right to say to the colleges what product shall be sent to them as a transportation system has to say to a steel plant what kind of rails shall be sent to it. They are in a position to command. It is neglect of duty when they confine themselves merely to futile complaint.

How can this function be performed? There seem to be two clear ways, both of which appear to arrive at the same end. The practical business world answers the question for us in one way. Our schools are the training institutions for the workers that go into commerce, for example; the commercial organizations use the product supplied them by the commercial training institutions. The machinists' trade uses the product that comes to them from the machinists' trade courses, and so on.

Now in the case of industrial schools, each department of the practical world demands that there shall be an advisory board of men taken from their own organization who shall be responsible for the curriculum of training, for the qualifications of the teachers, and for the general efficiency of the course in training the workers for the organization concerned. The demand appears to be thoroughly sane and practical. Now what does this suggest to city school systems in the matter of the training of their workers, elementary or secondary, where this is accomplished by institutions outside of their own organization? Apparently it means advisory committees, who are active members of city school organizations, and responsible for the quality of the work that is done by teachers after they come into the organizations, who are to bear definite responsibilities for the formulation of the courses of training for the various grades and classes of teachers, and to look into the qualifications of the teachers engaged in the training of these workers and the general efficiency of the institutions. Certain departments of our universities would naturally look upon such committees as tending to limit unduly, unnecessarily, and unwarrantably, the time-honored independence and irresponsibility of those departments. Other departments, with more modern outlook, recognizing the interconnections of human affairs in an age of miraculous progress due to organization, and recognizing the social service obligations of universities, would welcome this help which would come to them from the practical workers for whom they are, in fact, laboring. Schools of education, teachers' colleges, and the departments of education would welcome it most of all, since right demands from city school systems would mean the full professional training of all secondary workers sent out from our universities. At the present time nine-tenths of these prospective secondary workers never see the inside of the quarters devoted to the professional training of teachers.

Scotland may be mentioned as an example of a country where such a form of supervision of the training institutions is exercised. The various boards of control consist of men who represent the various educational organizations that are to receive the products of the teachers' training institutions. They are not merely advisory; they are directive. Universities and normal schools are not left to an irresponsible performance of this function.

A serious drawback to the application of the principle lies in the fact

that supervisory officials are not agreed among themselves as to what should constitute the standard qualifications necessary for entering upon professional labor in the various departments, especially so in secondary education, where the need is greatest. So far as there is consensus of opinion, this opinion has not been for the most part defined in sufficiently specific and accurate terms for practical use. The lack of standards of performance on the part of the teacher within the classroom, and the lack of security as to what constitutes good methods and what poor methods necessarily results in an equal vagueness of thought as to what should be the training and qualifications of the teachers who are to perform these still more or less undefined tasks. In proportion, however, as the tasks discussed in the earlier sections of our paper are performed, supervisory officials will find themselves in a position definitely to enforce upon training institutions the output of the kind of labor which they need.

This advisory committee suggestion, which comes to us clearly defined from present demands of the business world, is probably, however, not the best, if standing alone. It may have a place. Probably the best method is a combination of specific requirements for entrance into service and of enlightened professional understanding on the part of all concerned of the various bases of these entrance standards. In its practical working out, it means: first, the formulation in specific detail of the kind of training needed by teachers entering service in every aspect of their personality, set up by the city school systems; second, it means a complete, detailed, many-paged, continuous record of the growth of any particular prospective teacher in question through all the elementary, secondary, and professional stages, a perspective backward view of the individual's growth in each aspect of teaching personality as the one thing that can show clearly whether the individual possesses the various qualifications demanded by the city school system; third, the plan requires clear understanding on the part of the supervisors of education, on the part of teachers who enter into the service, on the part of the faculty of the training institution, of the nature and reasons, social and psychological, of the various standards that are established by the city school system in its schedule of qualifications for entering teachers. With these tasks accomplished co-operatively by city school systems, they can be in a position to determine the training that is to be given to the teachers, both elementary and secondary, supplied to them by

outside institutions. They will then be able to perform efficiently a function, the responsibility for performing which even now lies upon their shoulders but which they do not adequately attempt to perform.

VI. TRAINING DURING SERVICE

Principle VI.—The worker must be kept up to standard qualifications for his kind of work during his entire service.

Any aspect of personality, whether desirable or undesirable, atrophies when not exercised. This is generally recognized in the case of muscular strength, skill, and endurance. It is less generally realized to be equally true of mental strength, skill, endurance, adaptability, and fulness of knowledge; or of social qualities, sympathies, enthusiasm, professional zeal, appreciation of the humanities, openness of mind, fulness and right proportions of emotional response, and other like desirable qualities. Science, however, teaches us that every such aspect of personality must be exercised throughout one's teaching career or it dwindles and decays, leaving hollowness, feebleness, indifference, and disproportion.

Teaching personality, taking the term in its widest sense, is not a thing to be formed once and for all time and then left to itself. The higher a quality, the more removed it is from primitive instinct, the more unstable it is, and the more quickly will it atrophy when it is not held to normal strength through exercise. The high desirable qualities of the well-proportioned teacher are of this difficult and instable kind. Unfolded only through exercise, as they are, they can be retained only through continuous exercise.

Teachers must do more, however, than merely hold their own. They must advance with age and experience. On the one hand, they must keep up with professional development in their particular field in order to keep abreast of professional progress; on the other hand, they must continually advance along the lines of promotion. One cannot retain his forcefulness and his flexibility if he continues to do the same thing year after year, however well he may do it. He must continually advance to ever new kinds of tasks in order to retain mental and social flexibility, sensitiveness, alertness, and strength.

The functions of the supervisory staff in the keeping of their workers up to standard fall into two general classes: (1) They must see that teachers have the opportunity for the desirable amount of exercise of

each of the many desirable aspects of the teaching personality. (2) They must organize and control incentives in such a manner as to stimulate the teacher to take advantage of the opportunities that are offered to them in the degree that is desirable. There may be a third important function, namely, guidance and leadership. This seems, however, to fall in part among the opportunities that are offered to teachers, and in part among the incentives and stimulations.

A. *Opportunities*

The schedules of qualifications desirable for teachers, quoted in a previous paragraph, indicate that the completely fashioned teacher must be one who rises to the full stature of humanity in every aspect of his being. His work being the full development of men, it is necessary first of all that he himself be a complete man in every proper sense of the term. This result is not to be accomplished by reading books, hearing lectures, or taking extension or summer-school courses, important as these things are in accomplishing a portion of the work. It is to be accomplished only by living a life that is rich in all the desirable phases of human experience. It is becoming more and more apparent that the teacher of today, who is able to bear the social responsibilities that the world is laying more and more upon our profession, must be a man or a woman of the world, using the term in its best sense, with the world's wisdom, the world's vision, its sense of proportion, its sympathies, its humor, and social aims. This is to be accomplished only by participation in the full, active life of the world of affairs.

The teaching life has tended, and yet tends, to be a narrow life. On duty six or seven hours at the school, with two to four hours further labor preparing lessons and looking over papers, little time, energy, or inclination is left for any other activities. The work also is exceedingly narrow because of its being highly specialized and isolated from the other departments of human affairs. The teacher's work is in a quiet eddy outside of the main currents of human action. Although he is preparing individuals for labors within the vocations, the materials that he handles have been so conventionalized as to have lost practically all of their vocational flavor, and his work within the schoolroom has practically no outlook upon the great world of human vocation. He is preparing individuals likewise for the duties of citizenship within a self-governing

community; here again his labors have been usually so conventionalized as to have lost practically all civic relations. So far as his work is concerned, therefore, he has practically no outlook, except in the case of two or three special studies, upon the restless world of civic action and reaction. The same isolation, the same remoteness of his professional labors from the life and work of the active world is just as plainly evident in the case of each of the other departments of human affairs. This is carrying specialization to such an absurd extreme as to defeat the very purposes of the specialization. It is to sever one's relations with the world in order to perform a vital function for the world.

It goes without saying that teachers must keep up with the current literature and current thought of their special subject, with all professional developments in the way of methods, textbooks, or other appliances; that they should attend teachers' meetings, educational lectures, take part in reading circles or extension courses, do school visiting, attend summer schools and teachers' institutes; that they should take advantage, in fact, of all the agencies for the improvement of teachers during service already so well described and discussed in the recent bulletin of the Bureau of Education by Professor Ruediger. These are indispensable matters, having all the values in kind if not in degree there ascribed to them. It must be confessed however that their results are relatively disappointing except where some exuberant and enthusiastic personality arouses by the very contagion of his presence some semblance of fervor of an artificial and more or less unhealthy sort. There is, in so many of these agencies for training during service, a lack of vitality. Theoretically, they seem to be most excellent and desirable; and yet they exhibit a relative failure to keep teachers alive and vigorous and continually growing.

The one thing that will give all these agencies vitality, it seems to me, is to motivate them by giving them human purpose. This is to be done by giving all of the work of the school vital social purpose, and this in turn is to be done by fully knitting up the work of the school with the life of the community. The things taught for vocational purposes are to be linked up with the vocations of the community, and the teacher is to become familiar with these vocational relationships by mingling with the men and women who are engaged in them. This will mean for the teacher and school sympathetic attitudes toward and full understanding of each of the vocations of the community that is being

served by the school, as the school prepares and fashions the various abilities that are sent out for the use of each of these vocations. Overcoming the isolation of the schools will motivate the work of the school; and it will motivate every form of activity, the agencies for training teachers during service, among the rest, that ministers to the effectiveness of the work of the school. Therefore the teacher must live a full, human life not only for the sake of the humanizing effect upon his personal character, but also indirectly to give meaning and purpose and force to the professional activities which are specifically designed for training during service. Only by overcoming the isolation of the work of the school can these already established agencies be vitalized.

Vocation, however, is but one of a number of departments of human activity. In order fully to vitalize the school and indirectly to vitalize all activities that minister to its effectiveness, it is necessary to link up the labors of the school so as to serve the necessities of each department of human activity. This means that the civic training of the school is not to be done in a social vacuum, but that it shall be definitely related to the specific social problems of the community. Only the individual who participates in these social movements can understand them in that intimate degree necessary for teaching their nature and purposes and results. This observation of and sympathetic participation in the social movements of the community appear to be the only things that can vitalize and motivate the civic elements of educational work, both that of the pupils and that of the agencies training teachers during service. Other large fields of human activity where the isolation of the school must in the same measure and manner be overcome, where its work must be linked up intimately with the outside world, and where the life of the teacher must be made as wide as the general community life, are recreation, family life, philanthropy, religion, and general social intercourse.

For the two reasons then which we have sufficiently dwelt upon, it seems evident that the most important single factor in the continuous training of teachers during service is full and sympathetic experience of human life in all its various phases. A number of things are necessary to make this possible in sufficient degree. A few of these are discussed in the following paragraphs.

I. *Time*.—The teacher cannot have the desirable variety of humanizing and socializing experience unless time is given for it. This can be accomplished in one way by cutting down the teacher's hours of labor,

by shortening the school week, or the school year. For a number of reasons, this appears to be neither desirable nor probable. The probability is that both the school week and the school year will be lengthened; it is conceivable also that the school day may be lengthened. Another method of finding the necessary time for varied experiences is by distributing the time that the teacher is on duty during the day, week, and year over a large variety of tasks. As schools become recreation centers, social and civic centers, centers of vocational training, of vocational guidance, juvenile employment bureaus, participants in social surveys and child-welfare movements of every sort, as the labors of the school become fully devoted to the service of the community, a great variety of labors, touching all departments of human affairs, are coming to be performed. The distribution of the teacher's time so that he performs a portion of his work within the classroom, and a portion of it in connection with the other varied services will be a mode of finding time. If the setting-up of definite standards of performance and the scientific determination of the best methods to employ are even half as successful in economizing time and labor in the educational world as they have proven themselves to be in the world of productive industry, then we have here another argument for the performance of these primordial tasks. It would mean the release of time now wasted in ineffective labors which dwarf the teacher, which might well be employed in socializing labors which both humanize him and render him professionally efficient.

In this more varied distribution of the teacher's time, it appears to be necessary, for widening and renewing his vision, that a portion be given him for experiences outside of his immediate community. However varied one's work may be made, if it is a continual performing year after year of the same tasks in the same community, deadly monotony settles down over it all and saps its vitality. Alertness, spontaneity, and elasticity demand continual novelty in one's work. This can be introduced by giving the teachers new points of view from which to observe their work, their charges, their community. These are to be had through changed experiences. If one moves, observes, and works in different fields, and experiences life in new ways under new conditions, his vision is renewed for the things of his own community.

One of the most familiar methods and one of the best is the visiting of the work of other teachers who are working under other conditions. In this the teacher may well begin at home by observing the work that

is being done by all the teachers of his own school. In the total series of educational processes of which his labor forms but one link, seeing the elements which enter into the process before the product reaches him, and seeing the elements that enter into it after it leaves his hands gives him an enlarged and deepened insight into the processes which he performs within his own particular sphere. Visits then to the teachers of different social or vocational classes reveal, by comparisons and contrasts, other factors and other elements which enter into the nature of one's work and which were necessarily invisible until revealed in this manner. This means familiarity with educational work of all sorts in one's own community. It certainly shows the advisability also of visiting other cities where conditions are still different, and when possible, other countries. The chief purpose of thus giving time for travel and observation, from our point of view, is the development in the workers of new points of view, on the basis of which they can further analyze their own work, understand it better, appreciate it more, as they see it in new light from new angles. Here, likewise, one finds the chief justification for distributing some portion of the teacher's time for attendance at summer schools and institutes. Coming into contact with fresh thought, with altered points of view, it gives them new ways of seeing their own work. In proportion as the summer-school work accomplishes this thing, when teachers go back to their home community, they find that the previously dull monotony of their work has vanished, and that the new points of view, the new ways of looking at each feature of their labors, give it never-ending novelty and freshness and interest. They find themselves more alert, more vigorous, not so much perhaps because of particular facts carried away from the summer school, but rather because of their renewed vision. The distribution of a portion of a teacher's time for this purpose appears to be indispensable for keeping teachers up to standard year after year as they work in the same position in the same community. If this method of renewing the teacher's vision is as valuable as it appears, it seems that, not only should time be apportioned for it by directors of education, but that the use of the time in these ways should be required; and it should be paid for. If paid for, it would have to be supervised.

II. *Energy*.—This matter is closely correlated with the preceding. Not only must teachers have time for varied activities, but it must be given at a time when teachers possess sufficient energy for engaging in

the necessary activities. After the development of more definite standards and more definite methods, it appears possible so to speed up the work that one teacher may be able to handle two shifts of pupils in academic subjects during a six-hour day with not more than two hours required for daily preparation. The teacher may then be told that the remaining four hours of the day not needed for sleep and meals may be used for the variety of necessary humanizing activities for keeping one's self up to standard. But the daily store of energy, even when developed to its maximum, is limited in amount. It may certainly all be expended in a high-pressure day of eight hours and nothing left over for the remainder of the things that must be done. The time is rendered valueless for the purpose by the lack of energy to expend during that time.

Any aspect of personality is but an avenue of expenditure of energy. The proportional strength of any particular human aspect is the same as the proportional amount of one's daily supply of energy that is expended through that particular outlet. If the daily supply of energy is drained away through a few highly specialized channels with nothing left over for others equally desirable, the result is undue enlargement of the avenues of special discharge, and a closing of the unused channels. It means hypertrophy of a specialized portion of the man and atrophy of other equally desirable portions. If he is expected to mingle freely with the members of his community, if he is to lead in civic, social, or vocational enterprise, if he is to appreciate music and literature and science, if he is to be physically vigorous, it is absolutely necessary that a portion of his daily energies be reserved for expenditure through each of these various channels.

Supervisors must therefore not only distribute the time of the teacher so that he will have an opportunity for all desirable activities, but they must regulate the intensity of the activity in such manner that work shall not be too exhausting. While work must be speeded up for the sake of efficiency, yet this particular principle shows the limitations which must be imposed upon the process, either by reducing the intensity of the labor or by cutting down the time. The most fruitful suggestion made in this connection, however, is the conservation of the health of the teacher by right regulation of living conditions both within and without the school, which would enable the teacher to live upon a much higher plane of physical efficiency, having a larger daily increment of vitality to expend.

III. *Salary*.—The necessary range and variety of human activities enumerated are not available in sufficient degree or on a sufficiently high plane unless the teacher can pay for them. He cannot have healthful and cheerful home surroundings unless he can live in a proper manner in a proper residence neighborhood. Physical and social efficiency demand that his standard of living be upon a fairly high plane in matters of clothing, diet, recreation. He must have opportunity for privacy and quiet, for study and meditation. He must live in a family in natural human fashion; not in the isolation of the boarding- or rooming-house. If he must travel and observe, he must have the means for travel. If he is to have a cultivated appreciation of the various humanities, then he must have money for the purchase of books and music and pictures. He must be able to attend the drama, the opera, the concert, the lecture. If he must attend summer schools for attaining new points of view, then he must be able to pay his way, and to pay for life upon a plane worthy of his labor, not upon the pinched and petty level so frequent in student life.

IV. *A pervading scientific spirit*.—The general spirit of work in any field is highly contagious and tends to communicate itself to all of the workers engaged. Newly employed assistants in a well-ordered hospital, although unfamiliar with scientific procedure, naturally acquire a scientific attitude because of the general atmosphere which surrounds the work. Participation in the work of a scientifically managed farm is one of the best places for developing a scientific attitude toward agriculture.

If, therefore, in our training of teachers during service we wish to develop a fuller scientific attitude toward educational problems, one of the opportunities that must be given to these teachers, one of the most powerful influences that can be employed in developing this particular spirit, is the existence in and about all educational procedure of a general atmosphere of science and rational order. The leaders of the work of education are naturally the ones who must invest the field with this general scientific atmosphere. In the work of determining standards of attainment for each kind of work and for each stage of the work; in the scientific comparison of the efficiency of various methods, all of which appear to be theoretically good; in the scientific testing of all results; in the organization of the work of the school so that it becomes laboratory procedure of the best type as well as educational procedure of the best type; in the conferences and discussions of the workers as they direct

this work and measure its results; in the scientific fraternity of teachers and supervisors, as they work shoulder to shoulder in common obedience to scientific law, supervisors being only the leaders; in the performance of these various tasks, a scientific atmosphere is thrown about all educational problems and labors. And the general spirit of the teacher is shaped to the form demanded by our newer standards of efficiency.

When the real professional training of the teacher during service is of this active scientific sort, then the reading of the teachers and their work in extension and summer schools can be made more valuable than is the case when these are given in unrelated fashion based upon no foundation in the actual activity of the teacher. When the teacher is engaged alongside of the supervisor in the solution of endlessly complicated educational problems which are continually arising in ever-various forms with each new batch of pupils, then the reading can be motivated and rationally directed so as to throw added light upon the actual vital problems in hand. Summer-school courses for teachers can likewise find solid foundations on which to build. They can thereby be made more serviceable.

In this connection it is important to notice the altered personal relations between supervisors and teachers. So long as education is mostly empirical and the empirical deductions of supervisor and teacher are different, in so far as the supervisor actually directs the methods of the teacher, his direction appears to be in large degree personal and arbitrary. It seems a violation of the teacher's understanding of what is the best method. But in proportion as scientific method comes to control educational procedure, then the primary task of the supervisor is to discover the educational law and to apply it through the labors of the teacher, while the primary task of the teacher is to find the controlling scientific law through co-operation with the supervisor and to apply it in co-operation with the supervisor. The two classes of workers stand more nearly upon the same level. They are co-operative specialists, one having specialized in the field in one way, the other having specialized in the field in another way. Each is able to supplement the work of the other. Neither is personally over the other. Both are under the law.

B. *Incentives*

Now some of these opportunities and the means offered for securing the opportunities are intrinsically desirable in themselves and are them-

selves incentives. This is the case with matters of salary and matters of time. The case, however, is different with some of the matters mentioned in the above list. Human nature is so proportioned that one is easily satisfied with life within a quiet eddy after he becomes accustomed to it, and with relative isolation from the broad currents of human affairs. Man's social nature is easily satisfied with the things and persons of his immediate environment without looking beyond his narrow social circle. Also in matters of scientific training and procedure one is easily content to remain upon a low plane. Consequently in these matters it is necessary to organize methods of stimulating social and professional impulses which are in general too weak to be relied upon exclusively. While the opportunities offered in the shape of salary and time are essentially attractive in themselves, yet it is necessary even here to place incentives for stimulating a wise use of the salary and of the time. Salaries may be expended upon either a low or a high plane, and likewise the time and energy given to teachers for purposes of self-improvement.

Incentives to be employed are of two classes: those based upon self-interest, and those based upon social instincts. On the former basis, the method is the familiar one of rewarding the teacher for his labor in proportion to the efforts expended, as shown by results. Applied to the present case, it means that the teacher who uses the time and money and other opportunities definitely provided for the purpose, in the way that secures a maximum of desirable results, as measured by the schedule of qualifications, shall receive proper reward in the way of increased salary, professional promotion, social recognition, and a number of others.

But man is not wholly self-centered. He has equally strong social instincts as well. Because of these he enjoys being of service to all whom he looks upon as belonging to his social group. It is this which is providing the solid foundations for our quickening appreciation of "social service." In proportion as the isolation of the school is overcome, and the teacher feels himself, his life, and his work, as integral portions of the total community life, in that degree he will see his work as social service. The social motive will incite him to take advantage of the opportunities offered. To a normal, rightly developed individual, there is no stronger motive among those based on self-interest.

VII. DEFINITENESS OF INSTRUCTIONS

Principle VII.—The worker must be kept supplied with detailed instructions as to the work to be done, the standards to be reached, the methods to be employed, and the appliances to be used.

After the standards of educational attainment in each subject have been determined, the task of the teacher then is to produce results of this quality in his work. After experimentation and statistical comparisons have shown the methods that are best, then these methods must be used by the teachers. When certain materials and appliances have been definitely proven superior to others, these then are the ones that must be chosen and supplied to teachers for their work. General instructions necessarily will be given to teachers in their general training previous to service, but what any particular teacher shall do within any particular school cannot be so given during one's preliminary course. The standards to be reached by one school will be different from those reached by another school located in a different social environment. The normal-school training will teach general principles, and will thus give the teacher the ability to understand instructions given by the management. In proportion as the preliminary training has been complete, the current instructions given by the supervisory staff can be brief and general. The teacher can fill in most of the necessary details.

It is the same with methods. The teacher comes to a particular school with a general understanding of the principles of method. But the methods to be employed under one set of conditions must be in part different from those employed under another set of conditions. And further, since we are at the present time making very rapid advance in the discovery of more and more efficient methods, instruction as to these newer methods can be given only by the management, and in direct connection with the work itself.

In our schools of today, this function is performed in a great variety of ways. Efficiency implies centralization of authority and definite direction by the supervisors of all processes performed; and yet, on the other hand, efficiency likewise demands that the individuality of the teacher be respected; that initiative and professional alertness be not stifled; and that the whole work be alive with spontaneity. Here we find one of the difficult supervisory problems. The problem is to centralize direction and yet keep the total organization fully alive in every unit of its being out to the ultimate worker.

Leaving the limitations of human nature aside, the theoretically most perfect form of organization and direction is the "functional management" devised by the well-known efficiency engineer, Mr. Frederick W. Taylor. This system provides for a "planning room," such as described in a previous section, the special function of which is to determine the particular standards for each kind of raw material, and the best processes or methods to be employed. After these have been determined in ways previously described, the problem, the one discussed in this section, is how best to transmit them to the actual workers.

Under the "functional" plan, the single shop foreman is superseded by several different men called "functional foremen," each of whom, acting in close conjunction with the "planning room," has his own specific duty as an expert demonstrator throughout the shop. The planning room prepares the detailed instructions in connection with every piece of work, and puts these instructions into writing; then these demonstrators or functional foremen, selected for their knowledge and skill in their particular specialties, make sure that the instructions are understood on the part of the workmen and are properly carried out. They assist the workman whenever needed, showing him the best and quickest methods, and studying the individual temperament and capacities with a view to changing a workman from one grade of work to a higher one if he possesses qualities which warrant it, or to a lower one if he proves unequal to the task before him. This constant and personal observation incites the ambitious workman to his best endeavors, since he knows that any special proficiency which he may show will result in his rapid advancement; and every such advancement is an object-lesson to the other less ambitious workmen about him whom he has left behind.

One of these demonstrators makes certain that the drawings and instructions are clearly understood; another, how best to set the job in the machine, and how to eliminate any unnecessary personal motion; another sees that the machine is run at the most efficient speed and that the particular tool is used in the proper way to enable the machine to complete its product in the shortest time; others cover every possible point required in producing the greatest output, and in maintaining the required standard of workmanship. In one of the illustrations described by Mr. Taylor there are in all eight of these functional foremen, each a specialist in his own field, and each giving special detailed instructions to the various workers so as to bring about the greatest possible efficiency.

Under this system instructions as to each piece of work are given in writing to each worker. This necessitates a very much enlarged amount of clerical work in the direction of the business. Results have shown, however, that the increased output is so much greater than the increased clerical labor involved that the latter is but a very insignificant feature of the management.

This system has many advantages. There is an almost equal division of the work and the responsibility between the management and the workmen. The management takes over all work for which it is better fitted than the workmen, while in the past the greater part of the work and almost all of the responsibility were thrown upon the men. The work is divided so that one man need attend to only a few things. It enables complete specialization of labor. It definitely fixes the responsibility for the performance of each function upon one man. It allows the workman opportunity to think out improvements by enabling him to make an intensive study of his work.

"Notwithstanding all these advantages [says Professor Duncan] the functional system of organization has not proven popular or successful in a number of plants where it has been tried. It causes men to lose initiative; it has a tendency to shift and divide the responsibility in spite of the contrary intention. This has been found to be true in several places where the plan has been tried. The difficulties that have been encountered in carrying the scheme through are: (1) It requires a great amount of clerical work to fill out instruction-cards and write out all orders and minute instructions. (2) It is exceedingly hard at times to define clearly to whom certain functions belong and upon whom the responsibility rests when things go wrong, when there are so many as eight different foremen each in part responsible for the same task."

Where the system has been given a fair trial under favorable conditions, it has been wondrously successful, as shown by results quoted in a previous chapter.

Notwithstanding this enormous success of the method, there appears to be one very serious defect in the plan. In the specialization of the workers it is assumed that the science relating to standards, methods, and processes, is almost wholly the portion of the management, whereas the routine labor and the skill necessary for carrying out the dictates of science is the portion of labor that belongs to the workman. The plan as described in most of the instances implies that the workmen are in general mostly untrained in the technical science of industry and for

this reason practically all of the thinking and the scientific direction must be written out and given in connection with each particular kind of task. It is hard to see how this could do otherwise than mechanize the worker, destroy all powers of thought and initiative, and in the end undermine in large degree his working efficiency. Where the system has failed, it appears to be chiefly because nothing is left to the initiative of the worker. The cumbersome instructions cannot be understood, or the functional foremen do not get around to him until he has lost half a day in waiting for them; if, under such circumstances, the man could interpret instructions where they are defective, or if, knowing the general processes of the industry, he could proceed with his work in some fashion at least until the functional foreman arrived, most of the actual objections would be eliminated.

The remedy for this particular defect of the system, it would appear, is the technical, industrial training of the worker previous to service, and the continuing of the technical training of the worker during service so that he is at all times reasonably familiar with the controlling science in its general outlines as used by the planning room. He could then carry out most of the labors desired by the planning room on the basis of fairly brief and general directions. On the basis of this sort of training, he could safely be left to his own ingenuity after having received general instructions as to the way things were to be done. His intelligence would enable him to recognize where his judgment was insecure, and he could know when to ask questions of the functional foremen or of the planning room as to standards and methods. Where the plan has been most completely successful, it appears that there has been intimate and friendly co-operation at all times between the management and the workmen. The workmen have thus been able to obtain some insight into the general scientific principles controlling the work, so that while definitely and wholly responsible to the management at all times, yet they still had abundant opportunities for initiative, and there was abundant responsibility upon them so as to prevent mechanization.

We have gone into a discussion of the "functional" method thus fully because it offers so many suggestions for the scientific direction of education. The form of organization of the instruction department of our better organized city school systems presents at the present time a modified form of the "functional" plan of management. Corresponding to the functional foremen of the factory, there are in this portion of the

school system the supervisors of special subjects who give definite instructions to teachers as to the particular course of training that is to be followed, the particular standards that are to be attained, the stages of attainment in reaching these standards, and the nature of methods that are to be employed. Some of the aspects of the work which frequently receive this special supervision are music, drawing, writing, physical training, medical inspection and care, manual training, domestic science, school gardening, and the training of defective children. The building principal becomes one of this number of special supervisors inasmuch as he takes care of the usual school arts, history, and geography. Sometimes this special part of the work is in part cared for by primary, intermediate, and grammar-grade supervisors who look after the so-called regular subjects.

In the form of organization, therefore, within the instructional department, our profession is rather far advanced. In the degree of development of the work, however, a countless number of things need yet to be done. The necessity of developing the planning room has already been sufficiently discussed. The results, however, of the work of the planning room must be transmitted to the teachers so that there can never be any misunderstanding as to what is expected of a teacher in the way of results or in the matter of method. This means that instruction must be given as to everything that is to be done. But as we indicated above, there is certainly a better method of giving this instruction than by giving out detailed instructions each day or week as to each individual task to be accomplished. Full technical training before and during service together with constant contact of teacher with the representatives of the planning room will enable the management to give instructions that are wholly definite and yet give them in brief general terms, leaving the teacher to the direction of his inner technical knowledge as to standards and procedure. So long as the teacher uses standard methods or better, and accomplishes standard results or better, there is no need of supervisory interference or supervisory direction. Under such circumstances, the direction is from within, and the limitations upon the teacher are set from within. The teacher's freedom is necessarily narrowly limited, but the limitations are those of law and not the limitations of personal arbitrary authority. When, however, a teacher finds himself unable to direct his work from within, then the supervisor must give definite directions as to what is to be done and

how it is to be done. Responsibility for recognizing situations where the instructions required are unusual, and such as have not been given previously, directly or indirectly, rests upon the supervisory staff. It is for them to take the initiative.

This means a considerable quantity of continuous instruction. As the planning department discovers better methods of doing any specific thing, these must be handed on to the teacher interested in that topic. At the present time these discoveries are being made in all departments of our work. As surveys of conditions bring about changes of standards; as psychological investigation throws more and more light upon the stages of growth and indicates different progressive standards in attaining the ultimate one, the information must likewise be given by the supervisory staff to the teachers concerned. Teachers must not be permitted to stand still and remain in the same department with the same kind of work continuously. They must pass up the line of promotion; they must frequently be shifted from one kind of work to another, so as to place them where their services can be the most valuable. Whenever a shift is made up or down the line or from one field to another, large responsibility must rest upon the supervisory staff for giving initial instructions as to all standards and methods. In proportion, however, as teachers are widely informed as to the general technical principles of education, these instructions can be given in relatively general form, the teacher being left to his own judgment in the matter of filling in the details. In proportion as teachers are not informed along technical lines, instruction must be proportionally specific.

On the basis of this plan it would appear that there ought to be no external interference with the teacher's freedom and initiative so long as the teacher is able to go right; but that there should be interference the instant that he cannot go right, or the instant that he does not go right. It appears that there is nothing in this to which the teacher can object. In fact, in so far as he looks upon his labor as social service, there is nothing that he could more desire than to be properly instructed where knowledge is defective, and to be set right instantly the moment that he departs from the path of professional rectitude.

This plan cannot mean the unifying of all of the work. One sometimes reads of the educational systematizer who organized his work in such fashion that the same task was being performed by each grade in each building in the city at the same time each particular day. In fact,

the plan was made to cover wider areas than the single city. But such a plan did not involve any scientific study of any individual differences between children and the necessity of variations to meet the needs of different abilities. Neither did it consider the fact that different social conditions require different treatment, and that therefore educational procedure must be always adapted to the great variety of conditions. The plan did not involve any scientific investigation, experimental or statistical, as to the nature of the best methods to be employed or the best time for the performance of each kind of work. It involved simply the arbitrary authority of one man or one central body of men. The centralized method of "functional organization" discussed here bears little resemblance to this fortunately disappearing method. Resemblance exists only in the matter of centralization of authority and definiteness of task.

Teachers cannot be permitted to follow caprice in method. When a method which is clearly superior to all other methods has been discovered, it alone can be employed. To neglect this function and to excuse one's negligence by proclaiming the value of the freedom of the teacher was perhaps justifiable under our earlier empiricism, when the supervisors were merely promoted teachers and on the scientific side at least knew little more about standards and methods than the rank and file. Today it is an excuse that appears fair, but is in part but a respectable cover for ignorance and indolence. Nothing less than this is fair to the teacher. The amount of knowledge required at the present time in even elementary education is so extensive that no one individual can be expected to cover it all. The principal must specialize in one way and the teacher in another so that their efforts may supplement each other. A supervisor's primary function is specialization in the science of the subject whereas the teacher's specialization is in the practice of the subject.

VIII. OTHER PRINCIPLES

Owing to the limitations of space, application of other general principles of management to the problems of education cannot here be made. Further discussion might well cover such principles as the following:

Principle VIII.—It is a function of the management to discover and to supply the tools and appliances that are the most effective for the work in hand.

Principle IX.—Responsibility must be definite and undivided in the case of each task to be performed in the total series of processes.

Principle X.—Incentives must be placed before the workers so as to stimulate the output on their part of the optimum product.

Principle XI.—In a productive organization, the management must determine the order and sequence of all of the various processes through which the raw material or the partially developed product shall pass, in order to bring about the greatest possible effectiveness and economy; and it must see that the raw material or partially finished product is actually passed on from process to process, from worker to worker, in the manner that is most effective and most economical.

APPENDIX

SUPERVISION OF BEGINNING TEACHERS IN CINCINNATI

JOHN W. HALL

Professor of Elementary Education, University of Cincinnati

Introduction by the Secretary.—Cincinnati maintains a unique scheme for the supervision of teachers during their first years of service. The supervision begins when, as students in the city university, the prospective teachers are doing practice teaching in the public schools. It continues under the direction of the university authorities during a period of cadetting and after appointment to regular teaching. This co-operative relation between the city public-school system and the city university is administered through the College for Teachers which is maintained jointly by the university and the city board of education. This college is engaged primarily in training teachers for the elementary schools of the city in a four-year course which leads to a standard Bachelor's degree. Professor Hall who has charge of the scheme of supervision has provided the following description of certain of its aspects.

This paper deals with practice teaching and the criticism and supervision of candidates for positions in the elementary schools of Cincinnati. Two types of teaching under supervision are required, one before graduation from the city university, the other after. The former, the so-called practice teaching, requires the teaching of a series of fifteen lessons per semester and concerns itself mainly with the problem of class instruction. The latter, locally called cadetting, requires two months' experience in full charge of a room, thus involving an additional multitude of duties. The former, only, receives university credit. Much of the latter is paid for as regular substitute work. All of it is done in the local public schools and facing whatever conditions the particular school and class may present.

Practice teaching.—This year, two graduate students and fifty-seven out of a senior class of ninety-nine are doing the work in practice teaching. Each student is assigned a topic or series of topics that may

be handled with a particular class in about fifteen thirty-minute recitation periods, as, for example, the story of the *Iliad* with fourth grade, the study of Russia with sixth grade, reading Shakespeare's *Julius Caesar* with eighth grade, construction work and games involving arithmetic with second grade, building and loan associations with seventh grade, etc. The class is surrendered completely by the principal and the regular teacher for the time necessary to do this work. The topics selected are units in themselves and the student is held responsible for this particular piece of work. The room teacher, consequently, may carry on other work which the course of study calls for in the subject, without overlapping or without conflict of any kind. The student teaches geography or literature or arithmetic two days in the week while the regular teacher takes different topics in these subjects on the other days.

All of the practice teaching is done Tuesday and Thursday forenoons, each student reserving the necessary time on his college program on these days. Four of the public schools are being used this year in order to secure the required number of classes for fifty-five of the students. Two are doing this work in the colored school, two in the school for defectives. No public school has been used oftener than one year in four or five, except the colored school, for which the number of candidates each year is small.

One school with twenty-six regular teachers will serve as a typical example of the amount of time devoted to practice teaching in a single school. Fifteen of the classes are being used this semester, two by two students each. Not more than four students are teaching at any one time. It will be seen that although this is rather a large number of strangers coming into a school, neither the school nor any one of its teachers is very much disturbed. In fact, the principals and nearly all of the teachers welcome the work for the variety and suggestion which it brings into the school.

In the practice programs the first and last periods are congested, due to the fact that the college programs of some of these students are such that they must teach at these periods. When this is not the case, the students and the programs of the teachers yield to the need for an arrangement that will make possible the inspection of all the work at a single visit by one member of the college Department of Education.

In almost every case, the students have been allowed to choose the

grades and the subjects in which they wished to teach during the first semester. During the second semester they will teach in the same schools but in a different grade and subject, selected by the inspectors with reference to the individual needs of the students.

Little is made of observation. Each student visits the class in which she is to teach once or twice, meets the principal and the teacher, and gets the names and seating arrangement of the children. During this week of observation, if it may be so called, the student looks up the subject-matter which she is to teach, organizes it tentatively for the series of lessons and perfects the plan for the first lesson. This involves two or more individual conferences with some member of the Department of Education.

For this individual conference work, during the present semester, one member of the department has the students who teach arithmetic and history, 22 in all; another has those teaching second-grade reading and fourth-grade story, 19 in all; while the writer has those who teach fifth-grade story, third-grade story, art, domestic science, and the students teaching in the school for defectives, 18 in all. Monday and Wednesday afternoons are devoted to these conferences and each lesson plan is worked out in detail before it is taught. Whenever possible, the students are grouped for these lesson-plan conferences. However, when a member of the department goes to a school the work of all of the students teaching there is observed regardless as to who supervised the making of the plans. It not infrequently happens that when the student is criticised upon a certain point, the member of the department who has supervised the plan is called upon to justify his suggestion, in which case the student and the two instructors talk it out.

The first lesson is not observed. Heretofore, having fewer students, we have been able to visit about two-thirds of the lessons. This semester every student has been visited at least twice by each instructor, that is, six out of her fifteen lessons. The regular teacher of the class absents herself from the room for the first three or four lessons, after which she uses her own pleasure about visiting, but with the distinct understanding that while in the room she is to take no part in the lesson by word, look, or gesture. If a student has difficulty with the order the regular teacher is requested to lend the influence of her presence. The principals are in sympathy with the work and come and go as they wish. All of

his teaching is completely under the direction of this department of the College for Teachers. The students may ask advice or other assistance from the regular teacher or the principal, or these latter may volunteer their suggestions if they think they can be of any assistance. This is with the distinct understanding, however, that the student is to use her own judgment as to how far, if at all, she can profitably use the suggestions thus offered.

During the visit of the college instructor, which may last from five minutes to an entire lesson, he makes note of the few points, with possible illustrations, that he thinks valuable to discuss with that particular student, and at the earliest convenient time the student comes for these suggestions. These criticisms are meant to be of a concrete and constructive character. Usually by means of the critic's questions, the student is enabled to make her own reconstruction. Nevertheless, it is a time when the instructor gives the student, frankly but sympathetically, the result of his best judgment as to the handling of the particular situation, but as in the case of the principal and the regular teacher, it is with the distinct understanding that the student will use only the suggestions which she feels that she can use with understanding and profit. If the student cannot use any of these suggestions, it is expected that she will devise some way of her own for attacking the situation with which she has had difficulty. The only thing urged is that each member of her class be reached and taxed and in such a way as to increase his interest and power in the subject rather than decrease it. It is felt that if these ends are being attained, the method and devices of the student are pretty well justified.

Cadetting.—For the cadetting above referred to, a number of students, from one to five or six, are assigned to a particular school in order to give wider experience. Each cadet is required to teach in two different grades, in one until recess, in the other from recess until noon, taking full responsibility for the room, becoming the regular teacher for that time. The afternoons are left free for preparation. Since no pay is received for this work, the cadets may be drafted for regular substitute work whenever opportunity offers. It is easily seen that the cadetting is much more of an interruption to the regular work of a school—a cadet taking each of two rooms for one-fourth of every day. The need for substitutes in the last two years has been such as to practically absorb all the cadetting which was left after graduation. This

year the need has been such that all of the cadets have been given temporary appointments to regular positions at the substitute's salary of forty-five dollars per month. These assignments continue "temporary" for at least two months and until the college department staff recommends that the appointment be made permanent at sixty dollars per month. In case a student seems unlikely to succeed in one position, she is transferred to another for a fresh start. This cadetting will probably be changed to a temporary appointment for one year of the graduates of the College for Teachers at the regular salary of sixty dollars, the appointment to be made permanent at the end of that time upon the recommendation of the college department staff. This will doubtless apply also to all first appointments in the city schools.

Supervision after appointment.—All teachers appointed under the above regulations as well as other candidates for appointment are subject to the supervision of the department of the College for Teachers. In addition to having had specified professional training, candidates who have not been trained under the direction of the College for Teachers must meet the following regulation relative to "Practice" or experience.

The mark "Practice" is based upon personal inspection of the candidate's teaching. Candidates who have had the "Practice" that accompanies the professional work in education in the College for Teachers or a state normal school may be ranked and become eligible to permanent appointment after they have proven themselves in full charge of a class for a period of not less than two months, as cadets, substitutes, or temporary appointments.

Teachers of experience are required to teach under our personal inspection only so long as is necessary to prove their ability. In suburban schools they will be visited (with the consent of the superintendent), otherwise they must come to the city and teach under our supervision—usually not more than one week.

The eligibility lists are made up at least twice a year and those remaining upon the unexhausted list are ranked in their proper places among the new candidates, with the thought that the city is always entitled to the best available candidates.

For the eligibility list last June there were sixty applicants for the first list (college trained) and twenty-three for the second (trained in normal schools). Out of these there were finally placed on the first list, forty-three; and on the second, five.

In addition to the above, all teachers who have been appointed in the elementary schools of this city since the introduction of the merit system in September, 1905, are theoretically subject to the supervision of the members of this college department and may be visited at any time. The numbers have grown so great, however, that the supervision has necessarily narrowed itself to the first year of teaching in the city schools with continued visiting of individual teachers the second year and longer where it seems especially important.

The supervision as indicated above, and of the cadets and temporary appointees, is carried on in much the same manner and spirit as is that of the practice teaching. The visits are of necessity less frequent but longer. After each visit the teacher has a personal conference with the supervisor, either at the school or by appointment at the university. These conferences not infrequently occupy an hour. The result of the visit and the substance of the conference is embodied in a typewritten report, one copy of which is filed in the office of the superintendent of schools and one in that of this department of the university. Any teacher who especially requests may see his own report. Some of these reports follow.

May 9, 1912

Grade 7

Mr. R.

I visited the room several times and saw parts of spelling, history, and arithmetic. In every case the teacher was hearing recitations and it seemed that all the preparation necessary for such work as he was doing could have been made in half an hour. The spirit of the class was pretty good and they had the attitude of attention. There was, however, no genuine interest or anything to be interested in.

In the spelling, rules and book statements concerning prefixes and suffixes were given by the class when called for, but there was left on the board without criticism or discussion the following list of words written by one girl: "sensor, migrator, interior, anchor."

In discussion later with Mr. R., I pointed out to him that a wise discussion of those four words would have been more valuable than anything he did in the class. The first word was misspelled; three of them, although they ended in *-or*, did not show the use of that suffix; and the fourth, *migrator*, is not a word in common use. In making sentences using the suffix *-ness*, the sentence "The sweetness of the apple is great" was not quite satisfactory to the teacher, but "The sweetness of the apple is good" was acceptable—showing how formal their thinking was.

The history lesson was based on some papers which the children had prepared. It was a review—six weeks before the end of the year. The children had made lists of American and British victories and of American and British generals. All they did practically was to read from their papers—not even a discussion of relative values.

In the arithmetic, before they took up their problems on the board, the teacher said, "We will take up again our development of the subject of customs and duties." This consisted of the following questions: "What do you understand by customs and duties?" "Why only on imported goods?" "What kinds of duties are there?" "What do you understand by specific duties?" "What do you understand by ad valorem duty?" In each case the children seemed trying to remember the definitions from the book and the teacher was satisfied with that result.

I spent an hour talking over this work with Mr. R. I pointed out to him that it was bare hearing of recitations, without interest or genuine content, and then I took up each lesson in detail and showed him one way in which it might be presented so that it would be of interest and value. I told him that I thought the children's time was largely wasted, and that they must have been more or less bored by the work, and I tried throughout our discussion to make him see that good work requires time and mental effort in preparation. A large growth and improvement is necessary before Mr. R. is a satisfactory teacher.

September 26, 1912

Grade 8

Mr. R. [Same as previous one.]

Arithmetic.—The idea of percentage was well developed by the use of fractions. The lesson was well planned and the steps logically presented. Class were all thinking and in good working order.

Grade 8

Mr. W.

I think Mr. W. is improving in his relationship to the children, and slightly in the quality of his teaching. He still shows irritation, however, and a tendency to lose his temper in situations where he is largely to blame himself. I have pointed out to him that almost every loss of temper is a backward step, and makes it likely that he will say things to the children that approach the character of an insult, at least it would be so considered by him if I should say such things to him as he says to the children, or if I indicated such an attitude toward him.

I saw him teach a grammar lesson and a history lesson. So far as the quality of the teaching in the grammar lesson was concerned, it seemed to me that there was little to commend. It was purely formal and had no relation

that I could see to any feeling of need on the part of the children for the grammatical notion presented. I pointed out ways in which I thought that relationship might be made, and pointed out to him also the bearing which such work would have upon his problems of discipline. I suggested dramatization and other interesting composition work which might be made the starting-point for a good deal of his grammar work, especially by way of application. In his history work he seemed to me to raise a few genuinely vital questions.

May 25, 1910

Grade 5

Miss G.

My impression of Miss G. as a teacher is that she is generally weak, indecisive, and uncertain. Her preparation is not strong, nor is her organization or questions or ability in handling the answers of the children. I nevertheless think that in the first or second grade she may do work that would prove fairly satisfactory.

April 25, 1912

Grade 3

Miss G. [Same as one before]

I rarely have greater pleasure in a visit. When I first went in, Miss G. had about fifteen of her children; the rest had gone to German. These in the room were reading to each other from a book which the teacher supplied, doing this most earnestly and seeming to be interested. Later, with this same group, the teacher was presenting a poor physiology lesson, but the children were working hard on it.

Then I saw the rest of the class come in, in a most informal way and yet with such perfect order in the best sense that I was extremely pleased. There were forty of them, certainly not very clean and rather poor, difficult looking children, but they sat with bright looks and an attitude of expectancy which certainly spoke well for the teacher. They had a good language lesson in which all were working, and then they played a story which had been told well and with good spirit. I praised Miss G. for the kind of work she was doing and talked over her physiology with her, showing how she could make it much more valuable and interesting. It is fine to see her succeeding and in so difficult a place.

The appointees who are not graduates from the College for Teachers, unless especially excused by the superintendent of schools, are required to attend a weekly conference with a member of the department during the first year in the city schools and to submit a written lesson plan every two or three weeks. Otherwise, written lesson plans are seldom required. During the practice teaching, cadetting, and teaching for

inspection for the eligible list, the school principals and regular teachers have no official relation with the candidate, although the incidental relationship has been most sympathetic and cordial.

After appointment, either temporary or permanent, the teacher becomes a regular member of the principal's corps of teachers and the members of the college department have no authority beyond what the value of their suggestions may carry, and the fact that reports such as those herewith presented are made for the superintendent's office. Differences of judgment and policy between the supervisor and the principal are likewise embodied in these reports and are open to the inspection of the principal. When the plan for a trial year is completely established, the continuance of the teacher in the public schools beyond this time will be conditioned upon the recommendation of the supervisors.

It remains to mention another phase of supervision carried on by a member of the staff of the College for Teachers. This is the inspection of candidates for promotion to principalships and to the high schools. This work is done by the specialist in secondary education. This year it has been extended to visiting high-school instructors with the intention of ranking them for promotion. This supervision is done in much the same spirit as that described above and is accompanied by similar reports. The candidate for promotion to high school must be a college graduate with majors in the subjects in which he wishes to teach, must pass the city examination making a grade of nine in the majors, and must have his teaching approved by the inspector. The candidates are grouped with reference to the subjects in which they qualify and are appointed in the order of merit as thus indicated. The requirements for eligibility for principalships, and for promotion within the high school itself, have not as yet been formulated.

By way of summarizing the personal elements of supervision as they have appeared in the work in Cincinnati, we are moved to say that—with absence of the feeling or the attitude of superiority, with full appreciation of the conditions, the difficulties, and the efforts of the teacher, with an impersonal and accurate statement of what took place in the lesson, with fairly good judgment and resourcefulness in suggestions for substitution or improvement, with a fair-minded estimate of its value—it is remarkable what difficult cases may be handled without interruption of friendly working relations.

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CONSTITUTION OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

(Revision Adopted in Chicago, February, 1909)

ARTICLE I

Name.—The name of this Society shall be “National Society for the Study of Education.”

ARTICLE II

Object.—Its purposes are to carry on the investigation and to promote the discussion of educational problems.

ARTICLE III

Membership.—SECTION 1. There shall be three classes of members—active, associate, and honorary.

SEC. 2. Any person who is desirous of promoting the purposes of this Society is eligible to active membership and shall become a member on approval of the Executive Committee.

SEC. 3. Active members shall be entitled to hold office, to vote, and to participate in discussion.

SEC. 4. Associate members shall receive the publications of the Society, and may attend its meetings, but shall not be entitled to hold office, or to vote, or to take part in discussion.

SEC. 5. Honorary members shall be entitled to all the privileges of active members, with the exception of voting and holding office, and shall be exempt from the payment of dues.

A person may be elected to honorary membership by vote of the Society on nomination by the Executive Committee.

SEC. 6. The names of the active and honorary members shall be printed in the *Yearbook*.

SEC. 7. The annual dues for active members shall be \$2.00 and for associate members \$1.00.

ARTICLE IV

Officers and Committees.—SECTION 1. The officers of this Society shall be a president, a vice-president, a secretary-treasurer, an Executive Committee, and a Board of Trustees.

SEC. 2. The Executive Committee shall consist of the president and four other members of the Society.

SEC. 3. The president, vice-president, and secretary-treasurer shall serve for a term of one year. The other members of the Executive Committee shall serve for four years, one to be elected by the Society each year.

SEC. 4. The Executive Committee shall have general charge of the work of the Society, shall appoint the secretary-treasurer, and may, at its discretion, appoint an editor of the *Yearbook*.

SEC. 5. A Board of Trustees consisting of three members shall be elected by the Society for a term of three years, one to be elected each year.

The Board of Trustees shall be the custodian of the property of the Society, shall have power to make contracts, and shall audit all accounts of the Society, and make an annual financial report.

SEC. 6. The method of electing officers shall be determined by the Society.

ARTICLE V

Publications.—The Society shall publish *The Yearbook of the National Society for the Study of Education* and such supplements as the Executive Committee may provide for.

ARTICLE VI

Meetings.—The Society shall hold its annual meetings at the time and place of the Department of Superintendence of the National Education Association. Other meetings may be held when authorized by the Society or by the Executive Committee.

ARTICLE VII

Amendments.—This constitution may be amended at any annual meeting by a vote of two-thirds of voting members present.

MINUTES OF THE ST. LOUIS MEETING OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

(Held in the Convention Hall of the Planters Hotel, St. Louis, Mo.)

ANNUAL MEETING OF THE SOCIETY, MONDAY, FEBRUARY 26, 1912,
AT 8:00 P.M.

MEETING OF THE EXECUTIVE COMMITTEE, TUESDAY, FEBRUARY 27, 1912,
AT 2:00 P.M.

President W. C. Bagley in the Chair
S. Chester Parker, Secretary

At the beginning of the Monday evening meeting, the President appointed the following Nominating Committee: Superintendent A. S. Cooke, Baltimore County, Maryland; Professor J. N. Deahl, of the University of West Virginia; Professor L. D. Coffman, of the State Normal School, Charleston, Illinois; President Charles McKenny, of the Milwaukee Normal School; Professor F. E. Thompson, of the University of Colorado. Later in the evening the Nominating Committee presented the following report which was adopted:

For President, Superintendent James H. Van Sickle, of Springfield, Mass.

For Vice-President, Professor Edward F. Buchner, of Johns Hopkins University.

For member of the Executive Committee, Professor William C. Bagley, of the University of Illinois.

For member of the Board of Trustees, President David Felmley, of the Illinois State Normal University.

The meeting was devoted largely to a discussion of the 1912 *Yearbooks* which treated of the following topics:

Part I, "Industrial Education, Typical Experiments Described and Interpreted."

Part II, "Agricultural Education in Secondary Schools."

President Bagley opened the discussion by giving a brief statement of the main points in the *Yearbooks*. The discussion was continued by the following persons: Professor C. H. Judd, of the University of Chicago; Superintendent R. J. Condon, Providence, R.I.; W. T. Bawden, editor of the *Journal of Vocational Education*; R. P. Halleck, principal of the Boys' High School, Louisville, Kentucky; David Snedden, Commissioner of Education of Massa-

chusetts; State Superintendent C. P. Carey, of Wisconsin; R. E. Hieronymous, secretary of the Education Commission of Illinois; Dick Crosby, of the U.S. Department of Agriculture; Professor M. E. Marsh, of Berea, Kentucky.

At a meeting of the Executive Committee on Tuesday, at 2.00 P.M., it was decided to devote the 1913 *Yearbooks* to a discussion of School Supervision, possibly devoting one *Yearbook* to City Supervision, and the other to Rural Supervision.

WILLIAM C. BAGLEY, *President*
S. CHESTER PARKER, *Secretary*

FINANCIAL REPORT OF THE SECRETARY-TREASURER OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

JANUARY 1, 1912 TO DECEMBER 31, 1912

RECEIPTS FOR 1912

Balance on hand January 1, 1912..		\$591 57
From sale of <i>Yearbooks</i> by University of Chicago Press:		
June to December, 1911.....	\$364.69	
January to June, 1912.....	482.83	
	<hr/>	
		\$847.52
Interest on savings' bank account		9.35
Dues from members (current and delinquent)		
Active.....	227 31	
Associate.	82.20	
	<hr/>	
		\$309.51*
		<hr/>
Total income for the year....		\$1,166 38
Total including initial balance.		\$1,757.95

EXPENDITURES FOR 1912

Usual Expenses

Publishing and distributing two "Yearbooks":

Printing <i>Eleventh Yearbook</i> , Part I ("Industrial Education").....	\$339.57	
Printing <i>Eleventh Yearbook</i> , Part II ("Agricultural Education").....	275.31	
Distributing above <i>Yearbooks</i>	39.35	
Author's reprints.....	3.15	
Circulars about <i>Yearbooks</i>	7.13	
	<hr/>	
Carried forward - - - - -		\$664.51

*This amount received for dues is so much less than the amount received in 1911 (namely \$427.50) because many active members paid \$3.00 instead of \$2.00 in 1911 owing to an error in sending out the bills. This gave these members credit for \$1.00 on 1912.

Brought forward - - - - - \$664.51

Secretary's office:

Secretary's salary from end of Mobile meeting, February, 1911, to end of St. Louis meeting, February, 1912....	\$100.00	
Secretary's traveling expenses for St. Louis meeting, February, 1912.....	37.86	
Typewriting.....	\$10.40	
Stationery.....	16.50	
Stamps....	18.26	
Telegrams.....	2.18	
Exchange.....	4.75	
Total running expenses....	\$52.09	
Total for Secretary's office.....		\$189.95
Total usual expenses.....		\$854.46

Unusual Expenses

250 reprints of <i>Third Yearbook</i> , Part I ("Theory and Practice").....	\$28 20	
250 reprints of <i>Sixth Yearbook</i> , Part II ("Kindergarten and Elementary Education").....	63 00	
Total unusual expenses.....		\$91.20

Summary

Usual annual expenses.....	\$854.46	
Unusual expenses.....	91.20	
Total expenditures for 1912.....		\$945.66
Balance on hand December 31, 1912.....		812.29
		<u>\$1,757.95</u>

MEMBERSHIP

Number of active members (including one honorary) December 31, 1912.....	152
Number of associate members December 31, 1912.....	82
Total membership.....	<u>234</u>

S. CHESTER PARKER, *Secretary-Treasurer*

The accounts of the Society were audited for the year 1911 by the Trustees (Messrs. Judd, Holmes, and Halleck) and found to be correct and kept with commendable care.

LIST OF ACTIVE AND HONORARY MEMBERS OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

ACTIVE MEMBERS

- Axline, Howard E., West Technical High School, Cleveland, Ohio.
 Bagley, Wm. C., University of Illinois, Urbana, Ill.
 Baldwin, Bird T., Swarthmore College, Swarthmore, Pa.
 Benedict, Ezra W., Walden, Orange Co., N.Y.
 Blaine, Mrs. Anita McCormick, 344 E. Erie St., Chicago.
 Bolton, Frederick E., State University, Seattle, Wash.
 Boyer, Charles, Superintendent of Schools, Atlantic City, N.J.
 Bradford, Mrs. Mary D., Superintendent of Schools, Kenosha, Wis.
 Bricker, Garland A., Ohio State University, Columbus, Ohio.
 Briggs, Thos. H., Jr., 523 W. 124th St., New York City.
 Brooks, Sarah C., 9 Crescent Ave., Newton Center, Mass.
 Brooks, Stratton D., State University, Norman, Okla.
 Brown, George A., *School and Home Education*, Bloomington, Ill.
 Brown, John F., 559 W. 156th St., New York City.
 Brown, J. Stanley, Superintendent Township High School, Joliet, Ill.
 Brumbaugh, Martin G., Superintendent of Schools, Philadelphia, Pa.
 Bryan, W. J. S., 6102 Waterman Ave., St. Louis, Mo.
 Buchner, Edw. F., John Hopkins University, Baltimore, Md.
 Burnham, Ernest, State Normal School, Kalamazoo, Mich.
 Burruss, Julian A., State Normal and Industrial School for Women, Harrisonburg, Va.
 Bush, Ira Benton, Superintendent of Schools, Parkersburg, W.Va.
 Call, Arthur Deerin, 612 Colorado Building, Washington, D.C.
 Cammack, I. I., Principal High School, Kansas City, Mo.
 Carroll, Clarence, Superintendent of Schools, Marblehead, Mass.
 Caughley, John, District High School, Christchurch, New Zealand.
 Chadsey, Chas. E., 1767 Humbolt St., Denver, Colo.
 Chandler, J. A. C., Superintendent of Schools, Richmond, Va.
 Charters, W. W., State University, Columbia, Mo.
 Claxton, P. P., Bureau of Education, Washington, D.C.
 Coffman, Lotus D., University of Illinois, Urbana, Ill.
 Condon, Randall J., Superintendent of Schools, Providence, R.I.
 Conradi, Edward, Industrial, Normal, and High School, Tallahassee, Fla.

- Cook, Albert S., County Superintendent of Schools, Towson, Md., Sta. A.
Cooke, Flora J., F. W. Parker School, 330 Webster Ave., Chicago.
Cook, John W., President Northern Illinois State Normal School, DeKalb, Ill.
Cubberly, Ellwood P., Leland Stanford Junior University, Stanford University, Cal.
Davis, B. M., Miami University, Oxford, Ohio.
Davis, Emma C., 2024 E. 46th St., Cleveland, Ohio.
Deahl, Jasper N., University of West Virginia, Morgantown, W.Va.
Dearmont, Washington S., President State Normal School, Cape Girardeau, Mo.
De Garmo, Chas., Cornell University, Ithaca, N.Y.
Doyle, Mary E., Holy Names Normal School, Capital Hill, Seattle, Wash.
Dyke, Chas. B., Superintendent of Schools, Youngstown, Ohio.
Earhart, Lida B., 430 W. 118th St., New York City.
Eby, Frederick, State University, Knoxville, Tenn.
Edmund, Gertrude, Cohocton, N.Y.
Elliott, C. H., State Normal University, Carbondale, Ill.
Elliott, Edw. C., University of Wisconsin, Madison, Wis.
Ellis, A. Caswell, University of Texas, Austin, Texas.
Elson, Wm. H., 1768 E. 89th St., Cleveland, Ohio.
Farrington, Frederick E., Teachers College, Columbia University, New York City.
Felmley, David, President Illinois State Normal University, Normal, Ill.
Fleshman, A. C., State Normal School, Kearney, Neb.
Forbes, Geo. M., 235 Dartmouth St., Rochester, N.Y.
Foster, H. H., Ottawa University, Ottawa, Kan.
Frederick, J. M. H., Superintendent of Schools, Lakewood, Ohio.
Frost, J. M., Superintendent of Schools, Muskegon, Mich.
Giddings, Margaret, Supervisor of Kindergartens, Denver, Colo.
Gilbert, Chas. B., 1170 Broadway, Room 709, New York City.
Greeson, Wm. A., Superintendent of Schools, Grand Rapids, Mich.
Groszmann, Maximillian P. E., Plainfield, N.J.
Gwinn, J.M., Superintendent of Schools, New Orleans, La.
Halleck, Reuben Post, Principal Boys' High School, Louisville, Ky.
Hamilton, Cora M., State Normal School, Macomb, Ill.
Hanus, Paul H., Harvard University, Cambridge, Mass.
Harris, Ada Van Stone, Assistant Superintendent of Schools, Richmond, Va.
Harwood, Samuel E., State Normal School, Carbondale, Ill.
Hatch, W. H., Superintendent of Schools, Oak Park, Ill.
Henderson, Harmon C., State Normal School, Milwaukee, Wis.
Hill, Patty Smith, Teachers College, Columbia University, New York City.
Hitchcock, Clara M., Lake Erie College, Painesville, Ohio.

Holmes, Manfred J., Illinois State Normal University, Normal, Ill.
Horn, Paul Whitfield, Superintendent of Schools, Houston, Tex.
Jeffers, Fred A., Superintendent of Schools, Painsdale, Mich.
Jenks, Jeremiah W., Cornell University, Ithaca, N.Y.
Johnson, Pliny, Woodward High School, Cincinnati, Ohio.
Jones, Lewis H., President State Normal College, Ypsilanti, Mich.
Judd, Charles H., University of Chicago, Chicago.
Kaye, James H., President State Normal School, Marquette, Mich.
Keating, J. F., Superintendent of Schools, Pueblo, Colo.
Kirk, John R., President State Normal School, Kirksville, Mo.
Kirk, W. H., Superintendent of Schools, E. Cleveland, Ohio.
Kraus-Boelti, Mrs. Maria, Hotel San Remo, Central Park, W. 74th and 75th
Sts., New York City.
Lawrence, Isabel, State Normal School, St. Cloud, Minn.
Lawson, W. C., Superintendent of Schools, Bryan, Tex.
Lewis, Homer P., Superintendent of Schools, Worcester, Mass.
Logan, Anna E., Miami University, Oxford, Ohio.
Lord, L. C., State Normal School, Charleston, Ill.
Lowry, Chas. D., 1643 Kenilworth Ave., Chicago.
Lucas, Hardin, State Normal School, Valley City, N.D.
Luckey, G. W. A., 1439 R St., Lincoln, Neb.
Lukens, Herman T., F. W. Parker School, 330 Webster Ave., Chicago.
Lyte, E. O., President State Normal School, Millersville, Pa.
Mackey, E., Superintendent of Schools, Trenton, N.J.
Manny, Frank A., Teachers' Training School, Baltimore, Md.
Marrs, S. M. N., Superintendent of Schools, Terrell, Tex.
Marsh, J. T., Assistant State Superintendent of Schools, Charleston, W. Va.
Marsh, M. E., Berea College, Berea, Ky.
Maxwell, Wm. H., Superintendent of Schools, New York City.
McDaniel, C. M., Superintendent of Schools, Hammond, Ind.
McKenny, Charles, President State Normal School, Ypsilanti, Mich.
McMurry, Charles A., State Normal School, De Kalb, Ill.
McMurry, Frank M., Teachers College, Columbia University, New York City.
Miller, G. R., Greeley, Colo.
Miller, Irving E., Teachers College, Greeley, Colo.
Mills, Harriette M., New York University, Washington Sq., New York City.
Minnich, H. C., State Normal College, Oxford, Ohio.
Morgan, O. S., Alfred University, Alfred, N.Y.
Newton, Geo. A., Trinity University, Waxahachie, Tex.
Nichols, C. A., Southwestern University, Georgetown, Tex.
Olin, A. S., State University, Lawrence, Kan.
O'Shea, M. V., University of Wisconsin, Madison, Wis.

- Parker, S. C., University of Chicago, Chicago.
Pollock, Rosalie, Supervisor of Primary Schools, Oklahoma City, Okla.
Putnam, Helen, Providence, R.I.
Reigart, J. F., 31 Euclid Ave., Yonkers, N.Y.
Rall, E. E., State University, Knoxville, Tenn.
Rosier, Joseph, Superintendent of Schools, Fairmont, W.Va.
Ruedinger, W. C., George Washington University, Washington, D.C.
Russell, James E., Teachers College, Columbia University, New York City.
Ruthrauff, W. M., Care Silver, Burdett & Co., 378 Wabash Ave., Chicago.
Rynearson, Edw., Director High Schools, Pittsburgh, Pa.
Sachs, Julius, Columbia University, New York City.
Scudder, Myron T., 59 W. 96th St., New York City.
Shank, Burgess, 526 Linden St., Ann Arbor, Mich.
Sheppard, Jas. J., High School of Commerce, New York City.
Smiley, W. G., Principal of High School, Houston, Tex.
Slauson, Herbert M., Superintendent of Schools, Ann Arbor, Mich.
Snedden, David S., 302 Ford Bldg., Boston, Mass.
Snyder, Z. X., President State Normal School, Greeley, Colo.
Stark, W. E., Supervising Principal of Schools, Hackensack, N.J.
Stewart, Wm. M., State University, Salt Lake City, Utah.
Stone, Cliff W., State Normal School, Farmville, Va.
Strayer, Geo. D., Teachers College, Columbia University, New York City.
Sutton, W. S., 112 W. 18th St., University of Texas, Austin, Tex.
Suzzallo, Henry, Teachers College, Columbia University, New York City.
Taylor, Joseph S., 2275 Loring Place, The Bronx, New York City.
Tear, Daniel A., 5232 Greenwood Ave., Chicago.
Thompson, Frank E., University of Colorado, Boulder, Colo.
Thorndike, Edw. L., Teachers College, Columbia University, New York City.
Thurber, Charles H., Editor, Ginn & Co., 29 Beacon St., Boston, Mass.
Travis, Clyde B., State Normal School, Mayville, N.D.
Updegraff, Harlan, Northwestern University, Evanston, Ill.
Vandewalker, Nina C., State Normal School, Milwaukee, Wis.
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Waldo, Dwight B., Western State Normal School, Kalamazoo, Mich.
Walker, Elmer W., Superintendent State School for the Deaf, Delavan, Wis.
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Work, Cree T., President College of Industrial Arts, Denton, Tex.
Wright, Robert H., Teachers Training School, Greenville, N.C.
Youkers, Henry S., 491 New York Ave., Oshkosh, Wis.

HONORARY MEMBER

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THE TWELFTH YEARBOOK

OF THE

NATIONAL SOCIETY FOR THE STUDY OF
EDUCATION

PART II
THE SUPERVISION OF RURAL SCHOOLS

THIS YEARBOOK WILL BE DISCUSSED AT THE PHILADELPHIA MEETING OF
THE NATIONAL SOCIETY, MONDAY, FEBRUARY 24.
1912 8:00 P. M.

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THE TWELFTH YEARBOOK

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PART II

THE SUPERVISION OF RURAL SCHOOLS

BY

A. C. MONAHAN, L. J. HANIFAN, J. E. WARREN, W. LUND, U. J. HOFFMAN,
A. S. COOK, E. M. RAPP, J. DAVIS, J. D. WOLCOTT

Edited by S. CHESTER PARKER, Secretary

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PREFACE

This is the third annual *Yearbook* of the National Society to deal with an important phase of the administration of rural schools. In 1911 *The Rural School as a Community Center* was discussed and in 1912, *Agricultural Education in Secondary Schools*. These volumes were made up of contributions from experts in the several lines of rural education which were considered, and contained accounts of what was actually being achieved in typical situations.

The Secretary has continued the policy pursued in 1911 and 1912, and with the able assistance of Mr. A. C. Monahan, specialist in rural education of the National Bureau of Education, has organized this volume on *Supervision of Rural Schools*. Mr. Monahan made the program and suggested the contributors, and the Secretary arranged with the latter for their contributions.

Upon the urgent request of the Secretary, Mr. Monahan agreed to prepare the introductory paper himself. To him and to the other specialists who have contributed, the Society is indebted for their assistance and co-operation. The bibliography prepared by Mr. J. D. Wolcott, of the Bureau of Education, should prove of special service by assisting in further study of the problem.

I. THE STATUS OF THE SUPERVISION OF RURAL SCHOOLS IN THE UNITED STATES

A. C. MONAHAN

Specialist in Rural Education, U.S. Bureau of Education

The difference in organization for the management of school affairs in rural and urban portions of the United States makes rural supervision and urban supervision in large measure dissimilar problems. The schools in the ordinary urban system are under the charge of a city school board. The board employs a school superintendent who as its agent is both an administrative and a supervisory officer. In all but the larger cities he is the agent of the board in the management of the business of the school system, as well as in directing its instructional work. The duties delegated to him in connection with the repairs of the school buildings, buying school supplies, and administering the school funds are administrative; those of directing the instructional work of the school, arranging the course of study and dictating the methods of teaching, are supervisory. The selection of the teacher may be said to be both administrative and supervisory, but it is a function of the supervising officer wherever the school board employs two separate agents, a business manager and a school superintendent.

In the majority of states the unit for the management of rural school affairs and the unit for supervision are not the same. The administration and the supervision are, therefore, in large measure distinct. Both were formerly the functions of the school trustees. The tendency is now to turn over to a county superintendent the supervision, the trustees retaining the management of the school and the selection of the teacher. The unit of supervision for rural schools in 38 states is the county; the supervising officer, the county superintendent. In nearly two-thirds of the states with county supervision the unit of administration is the "single district." This is a small area served in most cases by one school, usually—outside of villages—a one-room, one-teacher school. The voters of each school district elect a board of trustees who are their agents in the management of the school affairs. These trustees have, as a rule, complete control over the school and its affairs, respon-

sible only to the voters of the district. They provide school buildings, make the necessary repairs, furnish supplies and facilities for teaching, secure the teacher and make rules and regulations to govern the school. They expend the school funds and in several states have the power to levy a special tax for school purposes.

The county superintendent under this district system is largely an advisory officer, holding whatever power he may possess by virtue of the county and state school funds which must pass through his hands and be expended with his approval. In many states he examines teachers and grants licenses to teach. Without his certificate no persons may be employed to teach in the district schools unless they hold certificates granted by the state. Through this function the county superintendent is given some power over the teachers. His principal duties are the administration of the county school funds, the examination and certification of teachers, the keeping of statistical records, and making reports to the county board of education and the state superintendent of public instruction, conducting teachers' institutes, visiting schools, and doing whatever he may be able to improve the quality of the instruction given in the school. His task is difficult, as the superintendent in the average county has to deal with as many separate boards of trustees as there are schools in the county.

Four states with the county for the unit of supervision have the township for the unit of organization for administrative purposes. In these states the duties, powers, and limitations of the county superintendent are practically as stated above. On the whole he has a better opportunity of accomplishing more for the good of the school, as he has fewer separate boards of trustees in his territory and, therefore, fewer trustees to educate and to influence into progressive action for the betterment of the schools. In eleven states the county is the unit of administration and the unit of supervision as well. In only five of these, however, is the actual balance of power in the hands of the county board of education. These five are properly organized for efficient supervision.

County supervision will probably never reach a satisfactory degree of efficiency, except in a comparatively few cases, until the county becomes the unit of administration, so that the county superintendent may be the agent of the county board of education in the management as well as in the supervision of the educational work of the schools.

And then he must be supplied with sufficient assistance so that the schools may be visited frequently. The average county superintendent under the present prevailing system visits each school in his county once during the school year, the average length of his visit being about two hours. In the 18 largest cities in the United States one supervising officer, devoting half or more than half of his time to supervision, is employed for each 19 teachers. It is probably true that the city-school system must be more machine-like than the county system, and that the country teacher must depend more upon her own initiative and ingenuity and less upon the supervisor than the city teacher. However, enough supervisors should be provided so that each would have not over 40 teachers under his oversight. It is evident that the county superintendent without such assistance can do little to improve the quality of the teaching in his county through personal criticisms and suggestions coming from an actual knowledge of the teacher's strength and weakness as an instructor or as a school manager.

Rural supervision in the United States is in the hands of city, town, and union district superintendents in New England, town and township superintendents in Ohio, district superintendents in New York, division superintendents in Virginia, deputy state superintendents in Nevada, and county superintendents in all other states.

New England school affairs are almost entirely in the hands of township officials, the county having no authority and the state only partial authority over a few schools in townships which are receiving state aid. All schools in the township whether in the village or in the open country are under the management of the same township school board. Weak townships may form "union districts" for the purpose of engaging superintendents who divide their time between the townships hiring them. In managing the school affairs each township remains distinct and separate. In administration and supervision no distinction is made between urban and rural. City superintendents with very few exceptions have one or more rural schools under their oversight. In all other states except Delaware, Maryland, Florida, and Louisiana cities and incorporated towns are usually set apart as independent school districts under local control. The township superintendent of Ohio, therefore, does not necessarily have under his oversight the village schools, as incorporated villages and towns are, as a rule, independent. The district superintendents of New York have oversight of all town

and rural schools in their districts, except in cities of 5,000 population or over.

The New York supervisory district is a county or a part of a county. There are 207 districts in the 57 counties, the number of districts in each county varying from 1 to 8. The "division" in Virginia is one or more counties; 80 divisions contain 1 county each; 10 divisions contain 2 each. Nevada is divided into 5 districts with from 1 to 6 counties in each. A deputy state superintendent has charge of each division.

The extent of the various supervisory units is given in the following statement:

EXTENT OF THE VARIOUS SUPERVISORY UNITS

38 states with the county unit have county superintendents.

2 states, in which the unit is one or more counties, have division superintendents and deputy state superintendents, respectively.

1 state, in which the unit is a county or a part of a county, has district superintendents.

7 states with the township unit have township or union superintendents, a union being composed of two or more townships.

Several states with the county supervisory system have made provisions for closer supervision than is possible by the county officer unassisted. Of these West Virginia and Oregon are especially noteworthy. As the district supervision in these two states is treated elsewhere in this volume a meager outline only will be given here. West Virginia in 1907 authorized "district superintendents" to have the supervision of all the country, village, and town schools in the district, exercising the same powers, duties, and privileges usually conferred upon city superintendents. The school district in West Virginia referred to here is the magisterial district and is about one-sixth of a county. In 1911-12 there were 37 district superintendents working in 19 counties, each of whom had an average of 34 schools under his jurisdiction. The district board of education is authorized by the law to engage a district superintendent if it sees fit to do so, or the board may be required to do so upon the written application of a majority of the taxpayers of the district. Oregon in 1911 enacted a school law which provides for a county board of education in each county having more than 60 school districts. This board is required to divide the county into "supervisory districts" to contain from 20 to 50 schools each and to place in each district a "supervisor." This supervisor is a county officer,

responsible to the county through the county superintendent. There are now, in 1912, 24 such supervisors.

In the early summer of 1912 Kentucky authorized county boards of education to appoint "county supervisors" to help supervise the schools under the direction of the county superintendent. The schools opened for the fall term of 1912 with 46 supervisors already engaged; 70 were in office by the close of the year 1912. About 34 similar "county supervisors" have begun work in as many counties distributed throughout the southern states, largely due to the activities and influence of the Southern Education Board and its agents.

The school laws of North Dakota provide an office assistant to county superintendents in counties having 50 or more schools. In counties of 150 or more schools the county superintendent is allowed in addition to his office assistant 1 deputy for every 100 schools to assist in visiting schools and in their general supervision. There were 10 supervising deputies employed in 1912. Maryland has a similar provision in her school laws and there were employed in that state in the school year 1911-12 "assistant county superintendents" in 3 counties. The new school code adopted in Pennsylvania in 1911 provides for assistant county superintendents in the largest counties. A few other states have passed permissive legislation but little advantage of it has yet been taken.

Another plan of aiding county superintendents in their supervisory work has met with considerable success in a few counties where tried in Virginia, South Carolina, Georgia, Alabama, Mississippi, and Louisiana. In these counties there has been appointed a rural school "industrial teacher" working under the direction of the county superintendent. The work of this teacher consists in visiting the rural schools of the county for the purpose of introducing industrial work such as sewing, cooking, gardening, and establishing cooking clubs, canning clubs, corn and tomato clubs, and school improvement associations. While not directly concerned with the academic work of the school, the effects of the visit of such a teacher have been to produce an awakening in the entire life and the work of the school. They have proved their value by showing themselves able to make many suggestions regarding the management of the school, the arrangement of the program, and methods of teaching of especial value to inexperienced teachers.

There is included in this paper a large table which shows for each state the unit of organization for the administration of the rural schools,

RURAL SCHOOL SUPERVISION.

	Unit of Organization for Administration	Unit of Supervision	No. of Counties	No. of Supervising Officers	Title of Supervising Officer	How Appointed or Elected	Term in Years
Alabama.....	County	County	67	67	County superintendents	By people	4
Arizona.....	District ^a	"	14	14	"	"	4
Arkansas.....	"	"	75	14	"	"	2
California.....	"	"	58	58	"	"	4
Colorado.....	"	"	62	62	"	"	4
Connecticut.....	Township	Township and union district ^a	8	44	City and town superintendents	" local school board	3
Delaware.....	County, districts	County ^a	3	43	Supervisors (for 97 townships)	" state board of education ^a	3
Florida.....	County ^a	County	47	47	County superintendents	" governor	2
Georgia.....	District	"	40	40	"	" people	4
Illinois.....	"	"	102	102	"	" county board of education	4
Indiana.....	Township	"	92	92	"	" people	2
Iowa.....	District ^a	"	90	90	"	" county board of education ^a	4
Kansas.....	District	"	105	105	"	" people	4
Kentucky.....	County, divisions ^a	"	119	119	Supervisors (assistants to county superintendents)	"	2
Louisiana.....	Parish ^a	Parish ^a	60 ^a	60	Parish superintendents	By parish board of education	4
Maine.....	Township	Township and union district	16	11	City	" local school board	1 to 5
Maryland.....	County ^a	County ^a	320 ^a	313	Union	" union board ^a	1
Massachusetts.....	Township	Township and union district	23 ¹²	23	County superintendents	By county board of education	2
Michigan.....	District ^a	County	14	110	City and town superintendents	" local school board	3
Minnesota.....	County, district	"	354 ^a	79	Union superintendents (for 244 townships)	" union board	1
Mississippi.....	District	"	83	83	County school commissioners	By people	4
Missouri.....	"	"	86	86	" superintendents	"	2
Montana.....	"	"	70	70	"	"	4
Nebraska.....	"	"	114	114	"	"	4
Nevada.....	"	"	20	20	"	"	4
New Hampshire.....	Township	Supervisory district ^a	92	92	"	"	2
New Jersey.....	Township	Township and union district	16	5	Deputy superintendents of public instruction (for 16 counties)	" state board of education	4
New Mexico.....	Township	"	10	12	City and town superintendents	By local school board	1
New York.....	District	County	234 ^a	28	Union superintendents (for 77 townships)	" union board	1
North Carolina.....	County	Supervisory district ^a	21	21	County superintendents	By state com. of education	3
North Dakota.....	County	County	26	26	"	" people	2
	T'ship, district		57	207	District	" district board of directors	5
			100	100	County superintendents	By county board of education	2
			49	49	"	" people	2

	Township District	Township	{ 88 x353 ² 77 34 24 66 ² 38 ² 43 65 90 245	{ 481 386 77 34 24 66 36 43 62 90 178 60 281 ⁹ 74 49 90 39 58 58 72 ¹⁹ 14	City and town superintendents Township superintendents County District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties) County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By local school board " " people " " county board of education By county board of education " local school board " union board " people " county court " people By people ²⁰ " local board " union By state board of education By people " district board of education By people	1 to 3 1 to 3 2 4 4 1 1 2 or 4 2 2 4 4 2 2
Ohio.....	Township District	Township County	{ 88 x353 ² 77 34 24	{ 481 386 77 34 24	City and town superintendents Township superintendents County	By local school board " " people	1 to 3 1 to 3 2
Oklahoma.....	"	"	{ 34 24	{ 34 24	District supervisors (assistants to county superintendents) County superintendents	" " county board of education	4 4
Oregon.....	Township	County	{ 66 ² 38 ² 43 65 90 245	{ 66 36 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
Pennsylvania..	"	Township and union district	{ 38 ² 43 65 90 245	{ 38 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
Rhode Island..	Township	County	{ 38 ² 43 65 90 245	{ 38 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
South Carolina.	County, district	County	{ 38 ² 43 65 90 245	{ 38 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
South Dakota....	District	County	{ 38 ² 43 65 90 245	{ 38 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
Tennessee.....	District	"	{ 38 ² 43 65 90 245	{ 38 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
Texas.....	District	"	{ 38 ² 43 65 90 245	{ 38 43 62 90 178	District supervisors (assistants to county superintendents) County superintendents City and town superintendents Union superintendents County superintendents " " (for 185 counties)	By county board of education " local school board " union board " people " county court " people	4 1 1 2 2 2
Utah.....	District ¹⁸	County	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2
Vermont.....	Township	Township and union district	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2
Virginia.....	Magisterial district ¹⁸	Division ²¹	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2
Washington.....	District	County	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2
West Virginia....	Magisterial district ¹⁸	"	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2
Wisconsin.....	District	County	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2
Wyoming.....	"	"	{ 27 14 24 ⁶ 100	{ 27 14 24 ⁶ 100	County judges (ex-officio) superintendents City and town superintendents (for 171 townships) Division superintendents (10 have 2 counties each) County superintendents District supervisors (assistants to county superintendents) County superintendents	By people ²⁰ " local board " union By state board of education By people " district board of education By people	2 1 1 4 2 4 4 2 2

NOTES.—Cities and the large towns are independent districts except in the New England states and in Delaware, Florida, Louisiana, and Maryland.

¹ Data in this table are for the fall of 1912.

² City and town superintendents in New England are included as their territory includes the entire township of power in the district.

³ By district is meant the single district, usually one school and the territory it serves; by "county, district," both the county and single district, with the balance of power in the district.

⁴ The township in New England is composed of two or more townships.

⁵ By union board in 5 districts.

⁶ Number of townships.

⁷ City schools are included in the county systems.

⁸ Composed of the township trustees and one trustee from each town.

⁹ The township in 24 instances.

¹⁰ The Kentucky county is divided into from 4 to 8 educational divisions; the division holds the balance of power.

¹¹ New Orleans Parish excluded.

¹² Composed of one or more delegates from each township.

¹³ Baltimore City excluded.

¹⁴ The township in the upper peninsula and in 4 townships in the lower

¹⁵ The Nevada supervisory districts contain from 1 to 6 counties.

¹⁶ The New York supervisory district is a county or a part of a county.

¹⁷ Philadelphia County excluded.

¹⁸ Composed of township school directors.

¹⁹ The county in five instances.

²⁰ Two superintendents have one-half county each.

²¹ Appointed by county board of education in the 5 counties organized on the county-unit basis.

²² The magisterial district is from one-fourth to one-eighth of a county.

²³ Ninety counties form one division each; 20 counties form 10 divisions.

²⁴ Tennessee has a few counties with the township or district unit.

the unit of supervision, the number, titles, manner of appointment, and length of terms of the supervising officers. It shows also the extent of supervision. It has been necessary to include the city and town superintendents in those states where the township is the unit of administration and of supervision for the reason already stated. No other city superintendents are included except in the 4 states already referred to, in which city and rural schools are both a part of the county system under the same management and oversight.

The manner of appointing or electing the supervising officer has a direct bearing upon the efficiency of his work. In every state where the township is the unit of supervision it is also the unit of organization and the superintendent is selected by the local school board. The quality of the man selected depends largely upon the ideals of the board. In some cases the selection must meet with the approval of the state authorities where the state is contributing to the schools to be supervised. In the other 41 states, including those with county supervision and New York, Nevada, and Virginia, the supervising officers are elected by the people in 29 states; they are appointed by the county board of education in 8; by the state board in 2; by the state commissioner of education in 1 with the approval of the state board in 1; and by the governor in 1. This is shown, together with the length of the term for which they are appointed, in the following table:

APPOINTMENT AND TERM OF THE COUNTY SUPERINTENDENTS AND THE
SUPERVISING OFFICERS IN NEW YORK, NEVADA, AND VIRGINIA*

Elected by people for 2 years.....	19
Elected by people for 4 years.....	10
Appointed by county (or district) board of education	
for 2 years.....	3
for 4 years.....	4
for 5 years.....	1
Appointed by state board of education	
for 4 years.....	2
Appointed by state commissioner of education	
for 3 years.....	1
Appointed by governor for 2 years.....	1
Total.....	41

* New York: District Superintendents.

Nevada: Deputy state superintendents of public instruction.

Virginia: Division superintendents.

II. DISTRICT SUPERVISION

WEST VIRGINIA AND OREGON AS EXAMPLES

L. J. HANIFAN

State Supervisor of Rural Schools, Charleston, W.Va.

District, or township supervision has for its object the close and effective supervision of the rural elementary schools. When a state, or a community, provides for such rural supervision it but tardily recognizes and adopts those principles of administration that have been found most effective in all forms of successful organized effort. We need only to look about us to see these principles in operation. Note, for examples, the administration of a great railroad system, the organization of a political party, or the handling of large military forces. Everybody is made responsible to and is directed by somebody else higher up. Even the churches are effectively organized and the clergy more or less closely supervised. Every large university has its president, its deans, and its heads of departments. Every city or large town has its superintendent, its district supervisors, its supervisors of special subjects, its principals of buildings, even its head janitors. But as the rural schools have been the last of all the varieties of schools to undertake any kind of improvement, so have they been the last to adopt these well-known principles of administration. That the rural schools have accomplished what they have and continued as an institution can be explained only by the fact that our rural teachers have, for the most part, been men and women of unusual devotion to their work, and that the funds for the support of these schools have come from an inexhaustible public treasury. But the time has come when the deplorable condition of country life in general and of the country schools in particular cannot longer continue so without seriously endangering the whole fabric of our national life. The people are, for the first time, becoming aroused to this fact, and conscious efforts are being made now to build up such a rural civilization as will be in keeping with the growth and prosperity of our nation as a whole.

Once this work of developing a rural civilization was begun seriously and consciously, it was discovered that squarely in front of all progress in rural life betterment stood the neglected rural school. The problem came to be, How to improve this rural institution, and through it to improve country life. For it has been found by experiment that reforms of whatever sort must come through the growing, not the adult, members of the population. The lamented Dr. W. S. Knapp demonstrated the truth of this principle by his experiences in his great work toward improving agricultural conditions in the South.

In our attempts thus far to improve the rural schools, we have tried a great many different plans. Some of these plans have succeeded, others have failed—at least partially so. The success of the best of them has been limited to rather narrow areas and peculiar conditions. To the administrative factor of the problem some very definite contributions have been made, though the adaptation of these contributions has been varied and rather limited.

It was Horace Mann's idea to train individual teachers for the work of the rural schools. For this purpose, he opened the first normal school in this country, at Lexington, Mass. This idea of Mann's spread rapidly, until today we have normal, or teachers' training schools scattered all over the land. No one would discount the excellent work these schools have done and are doing today. And yet it must be admitted that most of the direct benefits derived from these schools have been reaped by the city schools, which, owing to the larger salaries they could offer, could outbid the country schools for these trained teachers.

A little later came the plan of establishing graded schools in the country by means of consolidating small rural schools into central graded schools, transporting the pupils by wagons. This movement has spread through favored sections of a great many states, and with singular success where conditions were favorable to this plan of rural school improvement. But good as the plan is, where feasible, it can never help conditions in the large majority of the rural schools. The extension of the movement is necessarily limited by bad roads, by mountains and rivers, and by sparsity of population. This is particularly true in the mountainous sections of our country. It is safe to say that, for by far the greatest number of our country boys and girls, the one-teacher school will for many years yet continue to be the best.

The question is then, what can be done to reach and thus improve this large number of one-teacher schools?

As a means of reaching effectively *all* the rural schools, and especially the one-teacher schools, district (township) supervision has, within recent years, come more and more into favor with many students of rural school administration. For more than a score of years Massachusetts has had this plan in successful operation. Connecticut and some of the other New England states have adopted plans similar in character to that of Massachusetts. West Virginia has had optional supervision since July 1, 1908. New York inaugurated a system of compulsory supervision of all her rural schools May, 1910, and Oregon in May, 1911. Kentucky and Alabama have adopted district supervision within the last twelve months.

This departure in rural school administration has been made in recognition of keenly felt needs. In some of the states the ineffectiveness of the office of county superintendent has emphasized the need of some more effective plan of supervising the rural schools. This statement is made not as a reflection upon the holders of this office, for most of our county superintendents have labored faithfully to meet the heavy demands upon them. The increased number of schools, the ever-growing clerical demands, and the enlarged conception of the professional nature of the work of school superintendent, all have contributed toward making the office bigger than any one man. Those who advocate district supervision recognize this changed situation and merely seek to give the county superintendent relief from some of this vast amount of work by employing, as his assistants, as many expert supervisors as are necessary to insure thorough and systematic supervision of all the schools in his county.

The aim of district supervision is in general outline fourfold:

1. *To improve the administration of the business affairs of the rural school.*—The average board of education is composed of men who know very little about schools. They do not grasp the school situation well enough to know how most economically and effectively to spend the school funds at their disposal. They are men busy with their own affairs and could scarcely be expected to spend as much time with school affairs as would be necessary to supervise the construction of buildings, the making of repairs, the buying of supplies, the furnishing of fuel, and a large number of other things. A general manager, the district

supervisor, is needed to look after all these matters, always under the direction of the board. It is safe to say, if observation is worth much, that without expert supervision of the business affairs of these boards, twenty-five per cent of the building and supply funds is wasted.

2. *To help the teacher in her work.*—If we can picture to ourselves a girl yet in her teens, with no experience, with but little more than an elementary education, with no professional training, going out into an isolated rural district to teach a school of from twenty to fifty boys and girls, many of them larger and some older than herself, having against her the prejudices of the community and bad conditions generally, this girl doomed to stay in this community from the beginning of the term to its close, with little social life, with no one to give a word of encouragement or advice, such a picture will be fairly representative of the situation in a very large number of rural schools at this time. This teacher needs, even craves, sympathy and help. In very many such cases the supervisor turns the tide from failure to success.

3. *To train the teachers while they teach.*—The number of rural teachers who have had normal training is relatively very small. It would be folly to ask these teachers to quit teaching and go to a normal school. They must be trained while they teach in their schools. District supervision proposes to train *one* man for each group and send him out into the district to train these teachers for more effective work. This plan provides a training school in each district as it were, taking this training to the teachers instead of sending the teachers away to the training. The plan has at least the advantage of associating the practice with the theory of teaching.

4. *To provide for effective community leadership.*—Leadership in the rural districts is sadly lacking. There is no logical leader of the whole community. The minister is the leader only of his own church. The country doctor seldom assumes the leadership which his superior training and experience fit him for. The farmer does not have sufficient motive to cause him to assume community leadership. But the district superintendent of schools, by virtue of his office, is a logical leader of all the people of his district. He comes in contact in one way or another with every family. He knows neither class nor creed. He assumes leadership in all efforts for the betterment of his people. Without such leadership it is a difficult matter to carry through any project looking toward social, educational, or moral uplift.

WEST VIRGINIA AND OREGON AS EXAMPLES

It may be worth while to note very briefly how each of these states came to provide for district supervision. In West Virginia the board of education in one district felt so keenly the need of someone to look after the interests of the rural schools that they appointed, in 1901, an experienced teacher for this work. There was no law for such action at the time, and to avoid complications, this teacher was appointed as a truant officer, which office the law provided for. This experiment led to the passage of a law in 1908 making the appointment of district superintendents optional with boards. The law went into effect July 1, 1908.

In Oregon it was observed that many farmers were moving to town to educate their children, while others were sending their children to the towns to be educated. A committee was appointed in 1910 to investigate this situation and discover, if possible, the causes. The committee reported that the rural schools were really inferior to the town and city schools and that it was their opinion that this inferiority was due to the fact that the city schools were well supervised, while the country schools had almost no supervision. The state superintendent submitted this report to the legislature in 1911, with his recommendation that a law be passed establishing district supervision. The law was accordingly passed and became effective May, 1911.

LAWS GOVERNING DISTRICT SUPERVISION IN WEST VIRGINIA AND OREGON

The West Virginia law makes district supervision optional with boards of education, except that a petition in writing of a majority of the taxpayers may compel a board to appoint a superintendent. When it has been decided that any district shall have supervision, it becomes the duty of the board to appoint a superintendent, fix his salary, and issue such rules and regulations as seem necessary. The only qualification specified by law is that the appointee shall hold a first-grade state teacher's certificate. The powers and duties of the superintendent are defined by law as those which "are usually conferred upon city superintendents." These superintendents are required "to make such reports as may be required by the state superintendent of free schools." It is further provided that a board of education may employ the principal of any graded school in the district as superintendent "*provided* he shall devote at least half his time to supervision." Furthermore, by decision of the

state superintendent two or more small districts may unite to employ a superintendent.

The Oregon law makes district supervision compulsory in counties having over sixty school districts. A "school district" is defined as a community having fewer than one thousand children of school age. In such counties it becomes the duty of the county superintendent to appoint four persons who, with himself as chairman, constitute a county education board. It is the duty of this board to divide the county into supervisory districts, having not fewer than twenty, nor more than fifty, school districts; to employ and contract with a supervisor (the county superintendent must be the supervisor of one of these districts); to provide him with all necessary supplies (including stationery and postage); to make rules and regulations governing the work; and to serve as an advisory board to the county superintendent. The appointee shall hold a teacher's certificate valid in Oregon and shall have taught school for at least nine months in the state of Oregon. His salary shall be not less than \$1,000 or more than \$1,200 per year of ten months. It is the duty of a supervisor to work under the direction of the county superintendent; to devote his entire time to the supervision of the schools; to enforce the state course of study; and to make monthly written reports to the county superintendent.

THE WORK OF THE SUPERVISORS

The work of the district supervisors varies greatly with local conditions. No two supervisors will attack the problems in the same way, or get the same results. But there are certain large principles of school administration that must be followed by all alike, if the best results are to be obtained.

The work of a supervisor in any district consists in meeting local needs by adaptation of these principles of administration to conditions as he finds them. Individual initiative and physical energy determine largely how well the supervisor will meet and become master of a local situation.

It should be borne in mind that supervision of rural schools is a comparatively new profession in the educational field, just as sixty years ago supervision of city schools was a new profession. It is true that we have had county supervision for many years. And the county superintendents' work is essentially rural. But owing to the working of politics,

the increased amount of clerical work, and the large number of schools in most counties, county superintendents have never been able to raise their work to the dignity of a profession. So that when the rural supervisors began their work, they found themselves in a new field. But the experiences of the past few years have laid some foundations which will serve as a basis for developing rural school supervision into an attractive, because of its being a remunerative and interesting, field of work. In some states students in normal schools and in departments of education of colleges and universities are consciously preparing themselves for just this work. This new work opens up a fine field of work for ambitious young men and young women. Even today it is drawing into its field many principals of city ward schools and superintendents of small city schools.

Briefly stated the work of the supervisor of rural schools is the same as that of the superintendent of a city-school system, only that it is a means of solving rural-school problems instead of city-school problems. In each case it is but a matter of providing the best schools that can possibly be had for the given community. Local conditions are the guiding factor in every case.

As a concrete example of what some of these supervisors *are* doing, let me submit the following outline of the work of one supervisor in Oregon the year 1911-12.

1. Installed individual drinking cups in several schools.
2. Had sanitary water jar, or cooler, placed in several schools.
3. Secured the analysis of the drinking water in a large number of schools, with the result that in four cases out of five the water was condemned.
4. In all but one school had window boards installed for ventilating purposes.
5. Had the stoves jacketed in most of the schools.
6. Secured medical inspection of the pupils.
7. Readjusted the seating of the pupils with reference to health and comfort.
8. Emphasized the importance of better hygienic conditions and placed a copy of Dr. Allen's Health Rules in every school.
9. Distributed among the schools four-hundred ninety-nine supplementary readers for the individual grades.
10. Enforced the state course of study.
11. Helped the teachers in their efforts to use modern methods and devices of teaching.

12. Encouraged picture study in all the schools.
13. Secured the exchange of pupils' compositions with other school children in Oregon and in other states.
14. Assisted boards of education in securing and *retaining* capable teachers.
15. Persuaded boards to supply better school equipment.
16. Directed the work of the Teachers' Reading Circle and encouraged many teachers to attend summer schools.
17. Supplied teachers with lists of helpful state and government publications.
18. Held twenty-five public meetings and at ten of these gave stereopticon lectures.
19. Held a district school exhibit or fair.
20. Helped the pupils plan for vocational work during the summer vacation.

In West Virginia the State Department of Schools has taken a directive part in the work of the district supervisors, though in co-operation with the county superintendent. With the exception of "making such reports as the state superintendent may require," this feature of the work is voluntary on the part of the supervisors, but as a matter of fact they are always glad to get such suggestions and help from the state department as the time and energy of the members of the department will allow.

In September, 1912, a circular letter was sent from the state department to all the district supervisors and to the county superintendents as well. This letter, which follows, was intended as a sort of yearly outline of endeavor for all the rural schools in the state.

I. *Better attendance*.—Secure the co-operation of truant officers and parents.

II. *Better sanitation*.—Make sure of pure drinking water. Secure individual drinking cups and closed water jar or cooler.

III. *Improvement of grounds* and of wall decorations.

IV. *Libraries*.—Better to secure supplementary readers for the individual grades than to buy miscellaneous books.

V. *Try to secure equipment*—globes, charts, wall-maps, etc. Many schools are very poorly equipped. The teacher cannot work without tools.

VI. *Grading of one-room schools* according to the new course of study.

VII. *Better teaching*.—Secured by close supervision of work in the school-room, by teachers' meetings, and by personal study of methods and devices.

VIII. *Exchange of compositions*, one school with another in same district or in other districts, or even in other counties.

IX. *Encourage the pupils* to do their best work in composition, drawing, paper cutting, etc., by allowing them to exhibit their work on the walls.

X. *Parents' meetings*.—Nine-tenths of all school troubles come from misunderstandings of one kind or another. These meetings will bring about a better understanding between the teacher and the parents.

XI. *Free publications*.—Write to West Virginia College of Agriculture, Morgantown, and the Department of Agriculture, Washington, D.C., for their very valuable publications on the teaching of agriculture.

This same outline of work for the year 1912-13 was printed on one page of the pupils' monthly and term report cards which are in the hands of all the teachers and pupils in the rural schools of the state and through the pupils thus reach the parents also.

The major part of the work of the supervisors in West Virginia is along the following general lines:

1. To assist boards of education in the business administration of the schools. One supervisor was able to save his district the whole amount of his salary for the entire year by employing business methods in buying fuel alone. Until that year the furnishing of fuel had been "farmed out" to patrons of the individual schools by a process called "selling out the fuel." Instead of auctioning off the contracts for furnishing fuel in each school district, the supervisor under the direction of the board advertised for bids to furnish fuel for the entire district. The cost was much less, and the service much better.

Another supervisor aided his board in saving between \$7,000 and \$8,000 by working out a practical scheme of readjusting the schools to the population. In this district 101 teachers were employed during the year 1911-12. Many of the schoolhouses had been built from ten to fifteen years. Meanwhile the population had so shifted that some of these schools had not over ten pupils, all in walking distance of other small schools. This year the number of teachers was reduced to eighty-six, and yet not a single new schoolhouse was built, and no pupil had to walk over two miles. And strange to say the school population had increased by seven hundred. This state of affairs had existed for four or five years but the board did not know it until the supervisor called their attention to it.

2. District supervision improves the school attendance. By directing the efforts of the truant officer, and by gaining the co-operation of parents and teachers, the thirty-six district supervisors for the year 1911-12 were able to increase the average daily attendance by 14 per cent

above the average for the whole state. A similar increase for the whole state would have resulted in bringing into the schools at least 25,000 boys and girls that were out of school for lack of proper attention. Aside from our duty to these irresponsible boys and girls, we must remember that the good taxpayers of West Virginia paid for the education of all these children.

3. The supervision of the teacher's work in the schoolroom has very greatly improved the quality and effectiveness of the teaching. From one-fourth to one-third of the rural teachers in West Virginia at any time are teaching their first school. Many of these new teachers are young, in addition to being inexperienced. One must see them trying to teach to understand how helpless they are and how greatly they need assistance. District supervision makes for them just the difference between "keeping" school and teaching school.

4. The district supervisors of West Virginia are doing fine service by holding regular bi-monthly or monthly teachers' meetings. At these meetings formalities are laid aside and the teachers engage in discussions of the problems that have been confronting them in their schools. One of the more skilful of the teachers is assigned to teach a class of real live boys and girls in order to give the less experienced teachers the benefit of observing good teaching. The work of the Teacher's Reading Circle is reviewed. One of the most helpful features of these meetings is the bringing together of work in written composition, drawing, and manual training for an exhibit of what has been done since the last meeting.

The district supervisors are doing many things that cannot be enumerated. Their work is nothing less than that of bringing order and system out of conditions that are more or less chaotic in the rural districts.

A study of these two state systems indicates strongly that supervision is working a revolution in the schools affected. The Oregon law affects fourteen counties, and twenty-five supervisors are employed besides the county superintendents. West Virginia has, for 1912-13, fifty-eight supervisors, who have under supervision about one-third of the rural teachers in the state.

In constructing a scheme for rural supervision it is recommended that in addition to an academic and professional requirement the supervisor be required to pass an examination, under the state superintendent, on agriculture and the supervision of the teaching of agriculture; that the supervisor be employed for twelve months in the year; that he

devote his time between sessions in the summer as supervisor of school gardens and practical agriculture on the farms in his district, and that his salary be supplemented by state funds so that the state may have more authority in directing his work, somewhat as is the plan in New York, except that the office of county superintendent be not abolished. The legal recognition of the county superintendent in the Oregon law is superior to the West Virginia law, but as a matter of actual practice the county superintendent in West Virginia not only directs the supervisor's work, he also virtually appoints the supervisor in most cases.

III. RURAL SUPERVISION IN NEW ENGLAND TOWNSHIPS AND UNION DISTRICTS

JULIUS E. WARREN

Agent of the Massachusetts Board of Education, Boston, Mass.

I

The Massachusetts law provides for the expert supervision of all public schools. It requires that all towns (townships) of \$2,500,000 or less assessed valuation shall unite in unions of two or more towns, for the purpose of the employment of a superintendent of schools. There must be not less than twenty-five or more than fifty schools in a union at the time of its formation. Any four towns (townships), however, may form a union, though the combined number of schools may be less than twenty-five. The superintendents are elected by the school committees of the union from a list of candidates certified as qualified by the State Board of Education. The minimum salary is \$1,500, of which the state contributes \$1,250. The term of office is three years.

Although the law makes the superintendent of schools the executive officer of the School Board, each superintendent really exercises such powers as the local authorities in their wisdom may see fit to confer upon him. In most cases they are allowed to examine, nominate, and direct teachers; to prepare or adapt courses of study; to supervise the daily programs of the schools; to attend to the grading and promotion of the pupils; to recommend, purchase, and distribute textbooks and supplies; and to have general charge of school property, attendance of pupils, and the enforcement of school laws. In fact, they usually have all the powers which it is desirable that they should possess.

The other New England states have modeled their systems closely after the Massachusetts pattern. This plan has three distinctive features:

It is professional in character.

It is largely supported by the states.

It gives each superintendent a small number of schools to direct.

Every rural superintendent has to pass an examination and receive a certificate of fitness from the state department before becoming

eligible for election by the local authorities. In Massachusetts the original certificate is for one year. Renewals are for one, three, or five years, the duration of the certificate depending upon the candidate's success in supervisory work. Most of the superintendents are college graduates (in Massachusetts about 80 per cent). Many have taken graduate courses in the educational departments of Clark, Harvard, Columbia, or other universities. Nearly all have had a more or less extended experience as teachers. Each state makes some provision for the training and improvement of the superintendent after he begins work. Massachusetts conducts a summer school for them. It also employs inspectors (agents), whose duty it is to visit the schools, to observe the manner in which the superintendent is meeting the problems of administration and instruction, to inspire, stimulate, and advise him, and finally to report on his work to the State Board of Education.

The liberal state contribution makes it easy for the unions to pay fair salaries. Connecticut pays one-half the salary, but not more than \$800 to any one union; Maine, twice the aggregate sum paid by the towns, in no case to exceed \$800; Rhode Island, one-half the total salary of the superintendent, the state's share being limited to \$750; New Hampshire, one-half; Vermont, \$1,000, if the salary is \$1,250, and one-half of the amount of salary above \$1,250, the additional apportionment by the state to be restricted to \$300.

The small number of schools in a union makes possible a type of supervision unknown in any other section of the country. The superintendent may become really the principal or head teacher, and look after the details of administration and instruction in a way which is not approached in effectiveness in any place where the county, with its large number of schools, is the supervisory unit. Rural supervision in New England has aroused greater public interest in education, lessened the friction in school management, and has given the schools a broader and richer program, a more regular attendance of pupils, a longer school year, a more liberal supply of textbooks and educational material, and better schoolhouses and grounds. So strongly have its fruits appealed to the good sense of the people, that it is soon likely to become universal and compulsory in all of the New England states.

The administrative side of supervision has been so fully treated in university courses and professional literature, that the remainder of this paper will be devoted to a brief discussion of the rural superintendent

as a trainer of teachers: the need of such training; the preparation of the superintendent; suggestions as to the methods by which the best results may be secured. This is done with the firm conviction that the rural superintendent should put most of his time, thought, and energy into helping his teachers to become better teachers.

I. SUPERINTENDENT AS A TRAINER OF TEACHERS

Need.—The need of systematic training is very apparent where teachers are employed who are young, inexperienced, wholly untrained, or lacking in native capacity.

The young graduate of the normal school usually enters upon her work with enthusiasm and high ideals. Her training, however, has been incomplete because of her own immaturity, the wide range of subjects which the ever-increasing demands of the profession are forcing upon the normal schools, the shortness of their courses, and the inadequacy of the facilities for practice teaching. The superintendent of schools should continue the training begun in the normal school.

One principal, who keeps track of the graduates of his normal school, writes: "The normal-school graduates need sympathetic and definite suggestions as to how to improve their work and to hold them up to the standard which they had when they left the normal school. Often they will start in well, but are left so entirely to themselves that they fall back into routine methods, when some specific suggestions from their superintendent would change the whole character of their work."

Close, intelligent, and sympathetic direction is also necessary if the teachers long in service are to maintain the highest standards of efficiency. Very few people in any occupation do their best at all times, unless conscious of the oversight of someone who appreciates their best efforts and is aware of their failures. This is peculiarly true of teachers, for the routine of the classroom tends to fix habits, to lessen adaptability, and, possibly, to deaden ambition. Teachers cannot stand still; they must advance or decrease in skill and power. All teachers will grow in effectiveness, if helped, instructed, energized, and inspired by a capable superintendent.

II. THE PREPARATION OF THE SUPERINTENDENT

To train the teachers while in service, the superintendent must be something more than a *school inspector*. As an inspector, he may view the work and, out of his wider knowledge, pronounce it excellent, fair,

or poor. Mere inspection does not, however, carry with it the idea of showing the teacher how to improve. Constructive supervision, on the other hand, possesses some of the qualities of foremanship. The constructive supervisor feels a false note in the schoolroom as keenly as a master musician does a wrong touch on the piano. Like the musician, he points out the mistake, and has the exercise repeated until every defect is removed, harmony is restored, and the execution is perfect. A school inspector may discover and recommend the removal of the poorest teachers. With unlimited money at his disposal, he may hire a few superior teachers. He does nothing, however, to make the average teacher more efficient. The work in his schools will always be mediocre.

The constructive supervisor will be quick to appreciate and commend the good. He will be as prompt to point out and correct a violation of the principles of sound pedagogy or anything bad in the details of the practice of teaching as he has been to sympathize with and encourage the best efforts. Such a supervisor will bring the whole teaching force to a high standard of efficiency. No other type of supervision can ever be very effective in the New England unions where teachers' salaries are necessarily comparatively low.

To become a constructive supervisor and to have something of value to offer the teachers, a man should give his attention to the following lines:

1. He should fit himself to be really the head teacher, the master of the details of teaching reading, writing, arithmetic, and other subjects. He need not be appalled at the idea of mastering the many subjects that make up the curriculum of the modern elementary and secondary schools. He is not expected to know them all at the beginning of his work. He must learn them one at a time, and in the order in which he emphasizes them in the schools. The first year he should take one subject—possibly reading—talk about it in his teachers' meetings, give it a large share of attention in his visits, and gradually raise the schools to a high degree of effectiveness in handling this study. The next year he should take another subject. Each year, while keeping the old work up to the highest pitch of efficiency, he will concentrate upon some new line. In this way he will not only accumulate knowledge and capacity for helpfulness, but will be guiding his teachers step by step—the only way in which they can progress to higher efficiency and greater usefulness.

2. He should study children. He will find it a decided advantage if he has taught young children before beginning supervision. He

certainly should study the psychology and pedagogy needed in such teaching. He should continue to observe children and measure the work of the schoolroom by its effect upon them. It will help him to keep sympathetic and intelligent relations with the children, if he himself teaches whenever favorable opportunities offer.

3. He should set aside time for the study of the journals, magazines, and books relating to his profession.

4. He should keep informed as to the spirit and aims of the nearest state normal school, and especially of the methods followed in the training departments.

5. He should spend at least one day each month in visiting the schools in other towns or cities; the town of A., because elementary agriculture is there taught exceptionally well; the town of B., for the geography and history; C., for the free-arm, muscular movement writing, or to observe some other notable feature.

6. He should gain inspiration and power by attending summer schools, superintendents' conferences, and general educational meetings.

III. METHODS OF HELPING THE TEACHER

The superintendent will assist his teachers chiefly by his visits to the schools, by teachers' meetings, and by reading clubs, or by other forms of directed reading.

1. *Visits to the schools.*—The superintendent should minimize and so arrange the other duties of his office that he may spend most of the time during school sessions in the schoolrooms, giving his personal help and direction to the teachers. There is no other way in which he can really come to know his schools. Plan books, records, and the endless reports with which many teachers are burdened are but a poor substitute for a visitation. The accurate knowledge gained by frequent visits should enable a superintendent to diagnose a bad school situation and prescribe the remedy with greater accuracy than that with which the physician is able to deal with his cases. The superintendent should make visits of an hour or an hour and one-half in each school, once in two weeks. A shorter visit is rarely desirable; a longer one is unnecessary. New teachers should be visited at least once a week until safely established. The visits to a school should not be made at the same hour of the day, or invariably on the same day of the week. It is better not to have a fixed day or days for the several towns in a union, unless it is necessary to keep regular office hours in each town. The

superintendent should make his schedule sufficiently flexible to permit him to give his help where and at the time it is most needed.

a) *Using the visit to improve the conditions under which the teacher works.*—The superintendent should observe the conditions as to heat, ventilation, light, seating, cleanliness, sanitation, and everything that affects the health, comfort, happiness, and convenience of the school. He should see that the teacher corrects those defects for which she is responsible—regulating the ventilating system, adjusting shades and seats, and maintaining pleasant relations with pupils and parents. He should make a record of those things which should be brought to the attention of the school committee, and later press gently, persuasively, and persistently until the board takes action. In this way, the superintendent's visits will result in a steady improvement of the conditions under which the teachers work.

b) *General help.*—The superintendent should note the progress of each class and exceptional children; search out the causes of every case of retardation; examine attendance records; discover the reasons for faulty management or discipline; and get at the actual conditions in each school. His broader experience, observation of the treatment of similar problems in other schools, and study of the literature of education should enable him to give sensible and pertinent advice in these matters to the harassed teacher.

c) *Help in making the program.*—The program of the school should be studied carefully. Inexperienced teachers always need help in program-making. The following are a few of the tests which should be applied to the program:

Does it include all the lines of activity desired?

Does it provide work enough each day for every group of pupils and for the brightest children?

Are the recitations so distributed as to give the pupils suitable intervals for study?

Is provision made for educational seat work for the younger children?

Is the program arranged to give the beginners the reading when the children are at their best?

Does it reduce the number of recitations where desirable by a combination of classes?

Does it provide for the conduct of two or more written spelling exercises at the same time?

Does it provide for hearing two or more small classes in arithmetic simultaneously—one grade doing written work, while another is explaining a problem or reciting orally?

Does it provide for an occasional written exercise for one grade, to allow time for a longer teaching exercise in another grade?

Does any part of the program include a period of forty or forty-five minutes to be allotted to two or three grades according to their varying needs—a five-minute recitation for a grade whose seat work can be tested and a new lesson assigned in that time; and the remainder of the period for the development teaching required by the taking-up of a new subject in another grade?

Are the time allotments in the program justified by the conditions existing in the school?

d) Improving the teaching.—The superintendent should observe closely the teaching of each exercise, to see that the methods and devices used are pedagogically sound and adapted to the age and development of the children; to see that they are economical of time and energy; to see that the teacher connects new subjects of instruction with the child's knowledge and experience; to see that she is vivid in her teaching; to see that she emphasizes the vital things and does not give too much prominence to unimportant details; to see that she gives enough drill on the purely mechanical parts of reading, the number combinations, and other work in which memory is the chief factor; to see that she reaches every pupil.

In a union of large area with poor transportation facilities, it may be impossible to hold many meetings, and the visits may be about the only way in which the teachers can be instructed. In such cases, the superintendent can present during his visits the successive steps to be taken in teaching any phase of reading, writing, and arithmetic, or the methods to be used in history, geography, or other subjects.

Example.—The Ward System of reading may be taught so well to an inexperienced teacher in a few visits that exceedingly good results will be obtained.

1st weekly visit.—Give instruction and illustrations for teaching objectively, in sentences, the name words of the first vocabulary of eighty-three words.

2d weekly visit.—Have a new word taught. Give directions and illustrations for teaching a verb and presenting sentences in which all the words are known to the children.

3d weekly visit—Hear the class go through the steps already presented. Make corrections and have the exercises repeated until executed perfectly. Give the order and method of teaching the thirteen phonograms.

4th weekly visit.—Have every step repeated. Commend the good and suggest improvements.

5th weekly visit.—Have a new word presented to the class. Hear a review of all words learned from drill cards. Hear the phonograms already taught, and as much sentence reading as time will permit. Teach the "blend." Say to the teacher: "I hope to have Mr. A. of the School Committee hear this class next week. Please be ready to show him how the Ward System should be taught."

6th weekly visit—Have the teacher show Mr. A. or some other visitor how new words are taught, the devices for word and phonetic drills, the "blend" or word-building by means of which the children gain the power to get new words for themselves, and sentence reading with fine expression. Be sure that the sentence is made the unit, and word naming is never allowed.

If this demonstration for the benefit of a visitor is a success, the teacher will feel a pride in handling every detail with the highest skill and the pupils will advance rapidly.

Continue the general plan here outlined until the teacher has mastered the system. Use visitors and other means to make the teacher anxious to use the system a little more effectively than others have done.

e) Making suggestions to the teacher.—As soon as possible establish relations that will permit of a frank discussion of the methods and work of the teacher. The teacher will welcome criticism offered in a kindly and sympathetic spirit if she sees that she is being helped and strengthened. Suggestions may be made at recess or at the end of the session, and new ideas as to methods and devices may be presented during the exercise to which they may be applied. A carefully prepared teaching exercise may be given, or pupils may be questioned by the superintendent, to furnish models for the teacher.

General criticisms should be avoided. If the superintendent says, "The reading is very poor," but fails to point out the particular in which it is at fault, or to offer a remedy for the weakness, he merely discourages the teacher without helping her to improve her work. A clear, definite statement of the trouble and a suggestion for its cure, however, will encourage the teacher and help the children.

Illustrations: "The children do not know the 'sight' or 'stock' words. Drill on the 'sight' words, and they will read without hesitation."

"The reading-book contains too many new words. Young children need a great deal of easy reading. I would suggest using———" (naming the book).

2. *Teachers' meetings*.—Teachers' meetings may be made an effective means of giving inspiration, promoting professional improvement, and furnishing instruction. These meetings should never be called, however, unless the superintendent is sure that there is a message ready for the teachers. Aimless meetings, or conferences which settle nothing, are worse than useless, for they not only are a waste of time, but they serve to lessen respect for the ability and efficiency of the superintendent. For this reason it is safer for the young superintendent to hold meetings as occasion requires, leaving the planning of the regular yearly schedule of meetings to the superintendent who, from experience, knows the needs of the teachers and who can take time for adequate preparation.

The number, time of holding, and character of the meetings must depend largely upon the size of the union, facilities for transportation, equipment and experience of the superintendent, and other conditions. The aim of general meetings should be to inspire, broaden the outlook, and advise in those matters which concern the whole force. The superintendent can usually call to his assistance in the conduct of these meetings a local physician for talks on the hygiene of the school, a dentist on the care of the teeth, an oculist on his specialty, a business man on the kind of education required for commercial life or some phase of business activity, a traveler, author, scholar, or professor of agriculture on some appropriate topic, and other superintendents, normal-school teachers, special teachers, and others on educational subjects.

Small groups, consisting of rural grade or high-school teachers, may meet to discuss matters which particularly affect them. This is the place for directions and conferences on methods and devices, program-making, and courses of study. Superintendents, normal-school teachers, and experts from publishing houses may be used to advantage in these meetings. Teachers who are doing exceptionally well may also be invited to present model lessons. Such lessons may be written out by the teachers, and after being inspected and approved, rehearsed with pupils before the superintendent. The lesson may then be given with another group of children before the other teachers.

3. *Directed reading*.—The value of teachers' reading circles, magazine clubs, and other organizations for professional study and improvement, have been too little appreciated in the past. The plans outlined below are now in successful operation in various parts of the country. The adoption of one of these plans, or a combination of two or more of them, will be of advantage to any superintendency union.

First Plan: A voluntary organization of the teachers is formed, with a president, secretary, treasurer, and rules for procedure. Three books are selected, to be read by the teachers during the year. One book is usually chosen which deals with general pedagogical principles, as Bagley's *The Educative Process*, Murray's *How to Study*; one with the subject-matter and pedagogy of some particular topic, as Davenport, *Education for Efficiency*; Massachusetts Board of Education, *Agricultural Projects for Elementary Schools*; Warren, *Elementary Agriculture*; some books on the Methods of Madame Montessori; and one on some biographical or literary subject, as the life of Horace Mann, Froebel, or Pestalozzi. The books are owned by the teachers. The work is divided into as many parts as there are months in the school year. The first part is assigned to the teachers, to be read, considered, and finally discussed at the monthly meeting. The meetings are held evenings or Saturday mornings at the superintendent's office or home, or in some cases at the homes of the teachers. If held in the evening, light refreshments and a social hour sometimes follow the study period.

Second Plan: Topics for study are chosen by the superintendent or a committee of teachers. The material bearing on these topics is divided among the teachers. One of these references is assigned to each teacher to read and report upon at the monthly meeting. By this plan a wider range of information is gathered, and it is possible for each teacher to present something entirely new to the other teachers in the discussion.

An Act of the Massachusetts legislature (1911) provides that "Any free city or town public library may lend its books or other library material to any other free public library in any city or town under such conditions and regulations as may be made in writing by the Board of Trustees or other authority having control of the library so lending. Any city or town may raise money to pay the expense of so borrowing books and other library material from the library of any other city or town."

The Library Commission, State House, Boston, will furnish lists of the best books published on any topic, and also give the names of

libraries willing to assist the smaller libraries by loaning books. This makes it possible for the smallest free public library in the state to supply any book called for by its patrons. The School Department of any town would be justified in assuming the expressage if provision has not been made by the town for the payment of such charges by the local library. The Woman's Educational Association, Boston, Mass., will loan selected libraries upon application.

A few topics for study:

Organized games.

Vocational guidance.

The relation of agriculture, cooking, and sewing to life and to the other school activities.

The responsibility of the teacher for the health of her pupils.

Language teaching for (a) accuracy in spelling, punctuation, capitalization, and construction, (b) conciseness, discrimination, and ease in expression.

Third Plan: One or more of the correspondence courses given by the North Adams State Normal School are taken by the superintendent and teachers. The courses include work in history, English, practical arts, and other subjects. The books are furnished by the Normal School without expense to the students. Many of the questions and suggestions deal directly with the school problems of the local community. The work is discussed at monthly meetings.

Fourth Plan: Two educational magazines, *The World's Work*, *The Literary Digest*, *The Outlook*, or *Harper's Monthly*, are read, reported upon, and discussed at the monthly meeting.

Fifth Plan: Three books are studied, as in the first plan, the superintendent questioning the teachers on the subjects treated on his school visits. This plan may be used in communities where it is practically impossible to hold meetings.

II

The superintendent with a thorough knowledge of the technique of education should, on his visits to the schools, in his teachers' meetings, and by the directed reading courses, gradually train the teachers to a high degree of efficiency:

I. In the teaching of reading, writing, number, and formal language.

II. In the teaching of geography, history, physiology, and other subjects in which somewhat similar development methods are desirable.

III. In the teaching of the practical arts—paper folding, cooking, sewing and mending, knitting and darning, agriculture, wood, metal, and leather working.

IV. In the teaching and directing of organized games and folk-dancing.

INTRODUCTION

I. The chief work of the elementary schools is to furnish the child with a mastery of the three R's, the tools by which he may educate himself. These subjects should be taught as quickly as the natural development of the child will permit, and so effectively that he will use them automatically. They are somewhat formal in their nature. The processes of teaching them have been analyzed and so arranged as to eliminate nearly all waste efforts. To secure the highest efficiency in teaching them, one of the definite, complete standard systems dealing with these subjects should be adopted and closely followed.

The "Aldine," "Progressive Road," and "Ward" methods of teaching reading, the "Gray," "Bigelow," and "Walters" plans for number work, and the "Palmer," "Natural," "Whitehouse," and "Ginn" systems of penmanship are worthy of consideration in making a choice. Each of these systems is pedagogically sound. The details have been thought out carefully, the exercises logically arranged and accurately graded, and devices planned to arouse and maintain the interest of pupils. A manual of instructions accompanies each system. These manuals are so clear and definite in their directions that an intelligent and painstaking teacher will be able to get good results without other guidance.

A superintendent who understands one of these systems and possesses some elements of leadership can secure nearly uniformly excellent work from all of the teachers. Each of these systems has its peculiar advantages and each has its faults. For example, it might be possible to select more desirable rhymes or cumulative stories than those used in the "Aldine" and "Progressive Road to Reading."

However, until someone does make such a selection, present a comprehensive plan for using them, and print a set of books whose vocabulary will be covered by the rhymes or cumulative stories and the accompanying phonetic drills, the wise superintendent will turn a deaf ear to the critics. He will select the best systems of reading, number,

and penmanship published, master them himself, and teach the teachers how to use them effectively.

By following this policy, one superintendent has developed a free-arm muscular movement writing system to such an extent that the pupils are able to write legibly and elegantly in one minute and thirty seconds the twenty spelling words for which in many schools a twenty-minute recitation period is allowed. Another superintendent accomplished as much in eight weeks with beginning classes in reading as some others in two years. Still another has schools in which we find the third grades have the number concept as highly developed and a more complete knowledge of the number combinations than many fifth and sixth grades.

READING

The first step in introducing the "Aldine," "Progressive Road to Reading," "Ward," or whatever system may be selected, is to secure a specialist from the publishing company to present the subject to the teachers. The manual explaining this system should then be placed in the hands of the teacher for study. This should be followed by informal conferences in which the superintendent, having completely mastered the subject, should give definite instructions to his teachers how to begin the work. The instruction should be along two lines, (1) general directions for handling beginners in reading; (2) directions for teaching the system chosen.

1. A few illustrations of the kind of general direction, about which there is a substantial agreement among well-equipped superintendents and skilful teachers, are given below. The superintendent must discover the principles upon which the best practices are based by getting into close touch with the children, by observing the work of good teachers, and by conferences with superintendents and others. He must explain these principles to the teachers, and in his frequent visits to the schools see that his directions are followed.

Illustrations.—(a) The length of the recitation should be from ten to fifteen minutes, with two or more recitations daily. This time should be devoted to reading, and should not be taken up with the phonetic drills. Such drills may be better given in separate exercises.

b) The recitation should occur early in the session, when the children are at their best. A few teachers still give the number work precedence

over the reading. Reading, however, is entitled to the best place in the program, as the chief subject of the language group of studies which is most important at this stage in the development of the child.

c) Not more than ten or twelve children should be placed in one division. In any case, it is usually necessary to divide the entering class into two or three groups, on account of the differences in the ability of the children. If the school contains several grades and many classes, it will still be better to make these divisions of the beginners, so that the work of each group may be adapted to the development of the children in it. Progress will be more rapid with such an adaptation of the work, though the time devoted to each group be shortened.

d) The classes should be gathered about the teacher, standing or seated in kindergarten chairs. Close proximity strengthens the influence of the teacher, brings the children into a favorable position for black-board or chart work, and enables the teacher to sense the individual needs of the pupils and supply the help required.

2. The second line of instruction should include equally minute directions for (a) teaching the first vocabulary; (b) dramatization; (c) seat work relating to reading; (d) devices for word drills; (e) phonics; (f) beginning to read from books; (g) order in which reading material should be used; (h) amount to be read.

The following brief discussion of a few phases of the subject may suggest some of the points upon which the superintendent should give explicit directions.

Manual.—To secure the best results with any system, it is important that the method be followed as outlined in the manual. A mastery of the manual is essential, in order that the purpose and value of the various processes may be clearly understood and thoroughly appreciated. Frequent teachers' meetings, in which the various phases of the work are discussed and experiences exchanged, are also desirable.

Story.—The work begins with a story in the "Aldine" and "Progressive Road to Reading." Every good primary teacher must be a good story teller. If she has not learned that art, she should be encouraged to try at once. Practice will generally give the teacher power in this direction. Above all, insist that she keep in mind the purposes of the story, which are to arouse the interest and enthusiasm of the child and put him in a favorable attitude for his own reading, which is to follow. Incidentally, it facilitates the memorizing of the rhyme or cumulative

story around which the story centers, and in order to make this effective, the rhyme or cumulative story should be given proper emphasis in the telling. Many variations of the stories may be given, each utilizing the *exact* wording of the rhyme. Other stories may also be told if the teacher keeps in mind the object for which they are used, and does not tell them for mere entertainment.

Initial stock of sight words.—The memorizing of the rhymes or cumulative stories furnishes the child with the initial stock of sight words. The stories, the rhythm, the arrangement of the words, pictures, and dramatization give these sight words a vivid meaning and help to fix them in the minds of the children. As fast as the rhymes are taught, the charts containing them should be hung from the chalk trays or the rhymes may be written on the blackboard. Having memorized the rhyme, the teacher should be told that she should rarely, if ever, tell the child a word which can be found in the rhyme. He should always be led to find it for himself, thus developing self-reliance.

Pictures.—The pictures in the books and on the chart may be used to arouse the interest and enthusiasm of the child, stimulate his thought, increase his understanding of the story, and improve his expression in reading. Other pictures of children and of things in which children are interested may be collected and used with advantage.

Dramatization.—Dramatization is another effective means of securing a better understanding of thought and good expression. The teachers must be made to see that dramatization is a means and not an end in itself. It should be natural and spontaneous. Used intelligently, it will be found very helpful.

Non-English-speaking children.—With non-English-speaking children, a liberal use of objects, pictures, action sentences, and the right kind of dramatizing will soon establish a working vocabulary.

Phonics.—Most manuals of reading present complete systems for phonetic teaching. No part of the work is more important, and no part is more liable to be slighted by teachers who are having inadequate supervision. Each step should be studied by the superintendent, discussed with the teachers, and watched in operation in the schoolroom. If this is done, nearly uniform results will be secured in all of the schools and the children will gain the power to get new words for themselves. Begin with daily drills of initial consonants. Every child should be led to recognize the consonants or combination of consonants at a glance.

Poor or insufficient drill at this point will cause trouble later. When the time arrives for the teaching of phonetic families, see that the teacher follows the instructions given in the manual as to the order of taking up the series and for the use of the phonetic chart. Not only see that these instructions are observed by the teacher, but see that she understands the use of the type word and realizes the importance and value of giving all the drills suggested, and as much more as are needed to make every child instantly recognize every word in any series that has been presented to him.

Mechanics.—While reading should never be made mechanical, a certain amount of drill on the purely mechanical phases of reading is absolutely necessary, and this, like everything else that is worth doing at all, should be done thoroughly. Much of this form of drill is best given in exercises entirely distinct from the reading lesson itself. Separate periods, though they may be short, will answer for this work. Where a multiplicity of classes makes this next to impossible, a portion of the reading lesson must be set apart for this drill. In the first two grades, every reading lesson should be prefaced with a thorough and rapid drill of sight words. During the primer period this should include the entire vocabulary of the child. The new words which have been presented to the child by the story and in the rhyme are first drilled upon from a blackboard. They are then added to his previous stock of sight words and abundant drill given by sight word cards. This cannot be done too thoroughly.

Silent reading.—Silent reading is vastly more important than oral reading. All oral reading should be thought getting, and thus lead to enjoyment in silent reading. Frequent exercises in silent reading should be given in grades above the third. One method of conducting such an exercise is to give the class new material—books, magazines, or newspapers—and after allowing time for a silent reading of the paragraph or page, books are closed and the children are asked to express the thought in the fewest possible words. In the intermediate grades silent reading contests may be used to arouse the competitive and play instinct. Sides may be chosen and credits given to the quickest and best reports.

Training for expression in the upper grades.—A good way to improve the expression is to use two recitations a week for drill on a few choice selections. The reading of these pieces should be studied as carefully

as is the declamation in preparation for the prize speaking contest. The selections creditably read serve to establish standards by which the pupil judges his own and others' efforts. Thorough training on a few selections will improve all the oral reading.

Another way to secure good reading is occasionally to have two, three, or four pupils read or recite to the class or school the articles in which they have found pleasure. The children will make their own selections from newspapers, magazines, or books. This plan presents the conditions favorable for good oral reading—an interested reader, attentive listeners, and a selection suited to the age, understanding, and taste of the company.

WRITING

Experience is demonstrating the fact that business writing may be successfully taught in the public schools. The steps necessary to success are: (1) the adoption of a good system; (2) mastery by the superintendent; (3) study and practice by the teachers; (4) systematic work in the schools.

That mastery by the superintendent is an essential thing is shown by the following statement by an energetic, capable, Massachusetts superintendent: "I introduced the —— system of writing. The work dragged and the results were discouraging. I learned the system myself and gave lessons in the schools and at the teachers' meetings. In a few months the writing had improved wonderfully and teachers, pupils, committees, and parents were enthusiastic."

After the teachers understand the system and begin to get good results from children, the superintendent can arouse a proper spirit of emulation by collecting and exhibiting samples of the writing of individuals, grades, or schools. He must continue to manifest the keenest interest if the work is to be kept up to the standard. Superintendent C. says: "I used the —— system of writing for three years with excellent results. Then I became interested in other things and ceased to call for samples of writing or observe writing lessons. Near the close of the year I awoke to the fact that in consequence of my neglect the writing of the pupils had deteriorated 50 per cent."

It is now comparatively easy for a superintendent to start the free-arm muscular movement writing, for four of the state normal schools are graduating students who are capable of teaching the writing in a

school, or with a little help, of taking charge of the writing in a building or instructing the teaching corps of a town in the subject.

NUMBER

One of the several highly developed number systems should be chosen and taught to the teachers in the grade meetings and in the school visits of the superintendent. The ease with which this may be done is shown by the analysis of the Gray System given below.

Explanation.—The aim of the Gray System is to give the child true concepts in number and a knowledge of the so-called “number facts” and to make him, so far as possible, self-educative in the matter of acquiring them—to provide a means of learning through doing.

In form, the method is objective. It provides seat exercises in counting so arranged that the child makes and uses again and again objective and written expressions of “number facts.” Through this work the child gradually comes to remember one after another of these “facts” and acquires clear and accurate number language and imagery.

First step.—The first step in the method (*Manual*, chap. i) is the development of the oral, written, and objective language of the $+$ and \times “facts.” This is *language* work pure and simple. The author assumes that before the child begins to learn that $2+3=5$, $3\times 2=6$, etc., he must know what $2+3$, 3×2 , etc., mean objectively. This step requires six to eight weeks. When it is completed, the child is ready for seat work in the construction of expressions in which that language is used.

Second step.—(*Manual*, chaps. ii and iii.) This requires about four to six weeks to complete, consists of seat work in $+$ and \times language. Its aim is to give the child a ready knowledge of the language through experiences in using it accurately. There is no memory work, no recitation work, connected with it. If the objective work is done accurately and afterwards written correctly from the objective work on his desk, the purpose of the work is being fully served.

Third step.—(*Manual*, chap. iv.) The child is given seat objective work in which he uses this $+$ and \times language. The aim is to give him counting exercises the character and form of which lead him to discover and rediscover and remake the “number facts” again and again until they begin to find a place in his memory.

Fourth step.—In the same manner use is made of “take away.”

Fifth step.—"Has how many."

Sixth step.—Tens language.

Seventh step.—Tens counting.

Eighth step.—Partition language, etc.

Caution: A most important part of the system—a part that, if neglected, would leave the work barren of results—is the daily oral recitation work called "memory tests" (*Manual*, chap. v) which begin after one or two weeks of work under the third step. These are oral exercises in which, in response to questions, the pupil tells the teacher what he remembers of his counting experiences. The more often he is given an opportunity to relate his experiences, the more indelibly fixed in his memory the experiences become.

As each new counting step is taken up (take away, has how many, etc.) these daily memory tests are broadened to include that subject. As the work advances, all past experiences are included in these drills, no line of past work being overlooked during the year for more than a few days at a time. It is the teacher's means of fixing indelibly in the child's memory what he has discovered in his seat counting work. Without such drills many of the "facts" would be but fleeting visions soon to be forgotten.

FORMAL LANGUAGE

The generally accepted idea in language teaching is that ease and facility in oral and written expression be developed before much attention is given to spelling, punctuation, capitalization, and grammatical construction. Stories, plant and animal studies, games, the manual activities, and other means are used to fill the child with thoughts which he is so eager to express that he looks upon the oral or written language of the school as an opportunity and privilege. Fixing his thought upon the mechanics of language is believed to lessen his pleasure in, and retard his power of, expression. Accuracy may be promoted without interfering with freedom:

1. By making the most of the child's imitative instincts. He should never see an incorrect sentence, or, if it is possible to prevent it, hear one.

2. By giving dictation, language drills, or other drill exercises to fix habits of good expression at periods distinct from the recitation which is devoted to the study of literature or expression.

II. In the teaching of geography, history, physiology, and other subjects in which somewhat similar development methods are desirable. To teach these subjects in the best way, the teacher should know children, be familiar with the subject-matter, and understand the pedagogy of each study. Good courses in a state normal school are the best preparation for this kind of teaching. Experience under wise supervision has fitted many to do strong work in these lines. A superintendent can help the teachers materially by studying with them the pedagogy of these subjects and the methods and devices used in presenting them. Good lectures or courses in reading will also serve to broaden the outlook of the teachers and increase their ability to interest and instruct the children.

Carefully prepared model lessons given by the superintendent or teachers will set standards which will be imitated and improved upon by other teachers.

III. In the teaching of the practical arts—paper folding, cooking, sewing and mending, knitting and darning, agriculture, wood, metal, and leather working. Each year the manual activities are assuming a larger share of the school program. The schools of Gary, Ind., devote half time to them and still keep their children up to the grade in the book work. All progressive school systems give them a place in the curriculum. Rural and village school programs should allow at least two hours a week of the teacher's time for these subjects. The children are so interested in them that they will study their lessons diligently to earn extra time for the manual work. They should be encouraged to do this. Any child will teach himself much if given the opportunity to express his thoughts with his hands in a creative way. These subjects appeal strongly to the children. The knowledge acquired in their study is of much value in itself. It is excellent material for educational purposes, tends to give pupils the right attitude toward manual labor, and helps to bring about sympathetic relations between the home and the school. All that is needed to supervise this work effectively is interest in the subject, fair intelligence, a desire to serve the community, and a willingness to study a few books on agriculture, courses of study in cooking, and any one of the several books which give explicit directions for sewing.

BOOKS ON COOKING

Domestic Arts Book, North Adams Normal School.

The Boston Cooking-School Cook Book, Little, Brown & Co.

Elements of the Theory and Practice of Cooking, Macmillan.

BOOKS ON SEWING

Goodwin's Course in Sewing (3 vols.), Frank D. Beattys & Co., New York.
Scientific Sewing and Garment Cutting, Silver, Burdett & Co.

BOOKS ON AGRICULTURE

Agricultural Projects for Elementary Schools, Massachusetts Board of Education.

Elementary Agriculture, Hatch & Hazelwood; Row, Peterson & Co., Chicago.

IV. In teaching and directing organized games and folk-dancing, progressive superintendents are making an increasing use of the play instinct in the educative processes.

Game	Reference	Author	Publisher
Three Deep Herr Slap Jack Black and White Partner Tag Beast, Bird, Fish Hound and Rabbit Club Scratch Muffin Man Gardener and Scamp Animal Blind Man's Buff Circle Zigzag Over and Under Relay	Games for Play- ground, Home, School, and Gymnasium	Jessie H. Bancroft	Macmillan
Vis-à-vis All Up Guess Ball	One Hundred and Fifty Gym- nastic Games	Carrie A. Harper	George H. Ellis, Boston
Simon Says Weathercock Have You Seen My Sheep? Cat and Mouse Center Base	Education by Plays and Games	George E. Johnson	Ginn & Co.
Runner's Choice Corner Ball Last Pair, Pass	Indoor and Out- door Gymnas- tic Games	Maria Grey	Freidenker Pub. Co., Milwaukee, Wis.
I See You Rabbit in the Hollow	The Folk-Dance Book Popular Folk- Games	G. W. Crampton Mari R. Hofer	A. S. Barnes, New York A. Flanagan Co., Chicago

Organized games are made to insure healthful and pleasurable activity for all of the children. School grounds are being equipped with

swings, teeters, sand pits, tether balls, volley ball outfits, croquet sets, and other simple and inexpensive apparatus. Most of the apparatus may be devised and made by the pupils under the direction of the teachers.

Games are made the means of teaching manners, self-restraint, regard for the rights of others, and in short, bringing about those right relations between children which constitute good morals. Some superintendents are using play to establish habits of correct expression and action, and even in the acquirement of knowledge.

Organized games and folk-dancing should supplement, not supersede, free play. They should form a part of the physical exercises given during school hours, and of the plays of the recess and noon intermissions. Supervised play is almost a necessity when children spend the noon hour on the school premises.

The names of a number of games, with a list of the books in which they are described, are given on page 48. Some of these games are suited to the schoolroom, others to outdoor use. Appropriate ones should be selected and discussed, and the teachers encouraged to make the most of this approach to the child's mind and heart, and of this means of promoting happiness and healthful development.

IV. WORK OF THE STATE SUPERVISORS OF RURAL SCHOOLS IN THE SOUTH

WALLACE LUND

Southern Education Board, Washington, D.C.

The southern states between the Atlantic and the Mississippi expend annually about thirty millions of dollars upon their rural schools. Over twenty millions are paid to teachers. It has been estimated that 25 per cent of this can be counted as waste due to the lack of supervision. The fact we have to meet is, that, as a rule, the individual schools resulting from this vast expenditure are wholly inefficient. To quote Mr. T. J. Coates, state supervisor of rural schools in Kentucky, "We have been trying for nearly one hundred years to develop rural schools without supervision and have failed."

But how create the efficient school? As a step in this direction state supervisors of rural schools were appointed in Virginia, North and South Carolina, Tennessee, Florida, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Kentucky, and West Virginia. These supervisors are legally appointed state officials in the departments of education, who have charge of rural-school administration and upbuilding under the general oversight of the state superintendent of public instruction. The office is permanent, so that the efficient supervisor can devote his life to the rural schools.

The problem that confronted the state supervisors was one of great magnitude. Setting forth this problem in a tabular form we have:

TABLE I
NUMBER OF WHITE RURAL SCHOOLS IN THE GRAIN BELT*

	Number of White Schools	Number of Schools Having only One Teacher	Percentage of Houses with only One Room	Average Area Covered by Each Rural School
North Carolina.....	5,156	4,018	78.0	9
Virginia.....	6,708RT	5,305	79.1	6
West Virginia.....	6,570RT	5,771	92.6	4
Kentucky.....	7,056	6,270	89.9	6
Tennessee.....	6,044	4,587	72.4	7
Totals.....	31,534	26,951	82.7	

IN THE COTTON BELT

South Carolina.	2,399	1,986	83 0	12
Georgia.	4,891	3,553	75 0	12
Alabama.	4,427	2,590	64 6	12
Mississippi.	4,256	3,192	75 0	11
Totals.	15,973	11,321	72.2	
Grand totals.	47,507	38,272	79 2	

RT—Rural and Town.

*For our survey we took the states between the Potomac and Mississippi, excluding Florida on account of distinctive natural and educational conditions

TABLE II
CONDITION OF HOUSES

- a) Percentage of houses that are old. 59
 b) Percentage of houses that are not painted. 40
 c) Percentage of houses out of repair. 30

TABLE III
NUMBER OF WHITE RURAL TEACHERS, SEX, AGE, SALARY, AND LENGTH OF TERM TAUGHT

	Total No of White Rural Teachers*	Percentage of Female Teachers	Average Age	Average Monthly Salary	No Months Taught Previous Year
<i>Grain Belt—</i>					
North Carolina.	7,113	70.0	27.2	47.44	4 0
Virginia.	6,732	79.0	23 7	44 66	5.3
West Virginia.	7,735	48 9	25 3	47 93	6.0
Kentucky.	6,307	59.5	25.1	46.24	6.0
Tennessee.	8,466	60.8	27.2	39.05	6.1
Totals.	38,353	63.0	25 1	42.47	5.5
<i>Cotton Belt—</i>					
South Carolina.	4,255	80.4	27.2	34.49	6.1
Georgia.	7,691	72.1	26.1	49.42	4.9
Alabama.	6,434	64 7	24.5	50.51	5.7
Mississippi.	4,033	72 0	25.7	42.38	5.1
Totals.	22,413	71.5	25 8	44.18	5.5
Grand totals.	60,766	67.3	25.4	43.33	5.5

*These figures are only approximately rural. The average monthly salary is rural in North Carolina, in the other states it is for both town and country. The average term is likewise approximately rural, except in North Carolina, West Virginia, and Kentucky.

TABLE IV

STATUS OF THE TRAINING THAT RURAL TEACHERS HAVE HAD

	Percentages
a) Educated in the rural schools.	60 4
b) Having attended town schools.....	21.4
c) Having attended some high school.....	46 4
d) Having attended some normal college ..	23.0
e) Having attended some college.	30 4
f) Graduates of colleges.....	8.3

TABLE V

PERCENTAGES OF WHITE CHILDREN ENROLLED WITH AVERAGE ATTENDANCE AND WITH NUMBER NOT ENROLLED IN THE RURAL SCHOOLS, 1910-1911

	Percentage of White Children Enrolled in Rural Schools	Average Attendance of White Children in Rural Schools	Number of White Rural-School Children of School Age not Enrolled
<i>Grain Belt—</i>			
North Carolina.	73.7	47.21	109,392
Virginia.....	71.8*	45 60*	93,914
West Virginia.	75.7*	51.28*	77,874
Kentucky.	73 0	29.41	142,597
Tennessee.. . . .	73 8	44.63	126,352
Totals	73 6	44 23	550,129
<i>Cotton Belt—</i>			
South Carolina	73 4	52 30	36,257
Georgia.....	72 7	42.91	86,412
Alabama.	71 8	45.30	110,080
Mississippi	74 6	29 31	76,711
Totals	73.1	45 00	309,460
Grand totals.....	73.4	44.60	859,589

*Rural and town.

We have then 44 6 per cent of the white children attending school 5.5 months each year, taught usually by a young woman with practically no training for her profession. The need, therefore, of an effective system of rural schools is apparent. How to accomplish this end is the question of prime importance with the state supervisor. In conference at Jacksonville, Fla., in April, 1911, these supervisors agreed that *three means should be employed to create the schools needed, viz., increased local taxation, consolidation with transportation, and demonstration schools at strategic centers.*

In carrying out these plans the state supervisor must enlist the county superintendents and at the same time train them for more effective service.

In the states with which we are dealing there are 971 counties with 79,939 schools. Thus the average number of schools per county superintendent is 82. In order to visit each school under his charge once a month, the county superintendent must visit at least four schools every school day and travel approximately 30 miles. If the visiting of schools is the only duty of the county superintendent, a study of the above will show that even this cannot adequately be done. But when we consider that a large portion of his time must be given to administrative detail, his visits to schools for purposes of supervision and instruction must of necessity be at long intervals and each visit of short duration.

Mr. Brogden, state supervisor in North Carolina, states, "It is a physical impossibility for any man to give adequate supervision to such a large number of schools scattered over an area ranging from 500 to 900 square miles."¹

With the county superintendent the state supervisor visits the rural schools of the county, studying needs, assisting teachers, and making suggestions looking toward the betterment of the content of the schools. While in the county he takes an active part in local movements for efficient schools, which are usually efforts to levy a local tax or to increase a previous levy, to consolidate a number of weak schools into one strong central school, to secure a new building or to improve and equip an old one.

Reports from eleven states for six months in 1912 show that the state supervisors have aided in ninety local tax campaigns and in 103 consolidation efforts. They have furthermore stimulated 188 new buildings.

The teachers have been another point of attack by the supervisors in their efforts for efficient schools. From the beginning it was seen that the teachers must be instructed and directed so that their schools would meet the needs of their communities. To do this, Teachers' Manuals for the Elementary Schools were prepared by the state supervisors and issued by the departments of education. These give the teachers in detail the vital points in the work to be done as well as methods of putting these into practice. Another means employed in teaching the

¹ L. C. Brogden, *Consolidation of Schools and Public Transportation of Pupils*.

teachers is through the institutes. As far as possible these are made training schools for disseminating modern methods of teaching.

In Kentucky, Mr. Coates selects ten schools at strategic centers in each of ten counties, thus getting 100 schools distributed over the state which the county superintendents place under his immediate direction. These he calls demonstration schools. Mr. Coates visits these schools whenever possible, makes place for the teachers, and then directs the work throughout the session. Around these ten centers the other schools of the counties are grouped. Each group averages about seven schools. For these seven schools eight teachers are employed, one of these a substitute teacher. The substitute teacher takes the place of teacher "A," so that she can spend some time at the central school; then the substitute teacher relieves teacher "B," and so on, which enables each teacher in the group of seven schools to spend some time in the central school. These schools, becoming more and more effective, will naturally absorb the weaker schools around, or they will act as examples affecting all the schools of the county and finally of the state. A similar plan is being carried out in Arkansas and in sections of other states.

But these demonstration schools, however efficient in equipment and methods of teaching, cannot hope to influence the entire state within a short period of time, nor can the county superintendent, with the many demands upon his time, create schools equal to the needs of country life. We must therefore look farther for a solution. The county has its schools, its teachers, its equipment. Primitive teaching methods still prevail in the larger number of the rural schools. How to train the teachers already at work, therefore, was the most vital and urgent problem with which the state supervisors had to deal. This called for expert supervisors in numbers sufficient to reach all the schools in the county.

Mannington District, Marion County, W. Va., has the distinction of inaugurating expert supervision of rural schools in the South, a district supervisor being appointed in 1901. In the fall of 1910 county supervisors of teaching in the rural schools were appointed by the state normal schools in Virginia, North Carolina, South Carolina, Georgia, and Louisiana, their salaries and expenses being paid from an appropriation by the Peabody Education Fund. Although connected with the state normal schools, the work of these supervisors was done, in each case, under the general supervision of the State Department of Education.

For the purpose of studying the methods of supervision that had been

developed in West Virginia as well as for judging results, the state supervisors held a conference with a number of the district superintendents at the State University, Morgantown, June 26-30, 1911.

Since this conference, supervising teachers corresponding to the district superintendents in West Virginia, have been appointed in Alabama, Arkansas, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

These district superintendents and supervising teachers, although working under the supervision of the county superintendents, are largely directed by the state supervisor, hence they are his agents in developing both the inner life and outer activities of the school. They report directly and regularly to the state department or the state supervisor.

Mr. Tate, state supervisor of South Carolina, suggests that the county supervising teachers:

1. Assist in securing good teachers.
2. Look after grounds and buildings and equipment.
3. Get every pupil enrolled opening day.
4. Encourage teachers to read and study.
5. Develop country libraries.
6. Encourage the introduction of elementary manual training, cooking, homekeeping, and sanitation into the country schools.
7. Use the score card.
8. Look after the organization and conduct of the schools.
9. Train the teachers in effective methods.

Mr. Hanifan, in West Virginia, further suggests an exchange of compositions among the schools and industrial exhibits for district or county fairs. He also recommends concentration on a few definite means of improvement, noting that last year in the thirty-seven districts under supervision the attendance was increased 14 per cent.

In a bulletin on *Duties of County Supervisors of Schools*, Mr. Coates outlines similar activities and suggests that these supervisors:

1. Vitalize the common branches.
2. Socialize the common branches: make them fill immediate and real needs in the life of the people. Introduce vocational subjects.
3. Advertise the school among the people.

In addition to these activities it is the duty of the supervisors in some of the states to aid in organizing boys' corn clubs and girls' clubs for canning, for poultry, or for garden work. Generally they do all they can

to further these community activities and to relate them to the schools. They are also the school improvement agents in the counties. The following table sets forth the number of supervisors employed in the southern states up to October 1, 1912, and also the estimated number required to adequately supervise all of the rural schools in these states:

	No. Supervisors Employed up to October 1, 1912	No Supervisors Needed in the States*
Alabama	1	177
Arkansas	1	240
Florida . . . . .	..	121
Georgia	8	195
Kentucky	65	282
Louisiana . . . . .	.	135
Mississippi	3	170
North Carolina	3	206
South Carolina	9	96
Tennessee	5	242
Virginia	7	268
West Virginia	58	263
Totals	160	2,395

*Estimated number schools for each supervisor, 25

In the foregoing we have seen the various agencies through which the state supervisor works for the betterment of the rural schools in the southern states. The following table of specific results reported by the superintendents of fifty-two counties taken at random, but where the state supervisors have done special work, will be of interest:

Total number of new buildings erected	226
Total number of additions to old buildings	40
Amount expended for new buildings and additions to old	\$670,455
Amount expended for equipment, school improvement, etc.	\$ 52,618
Amount expended for sanitation	\$ 12,636
Number of special local tax levies	129
Total amount derived	\$340,230
Number of consolidations completed	78
Number of small schools consolidated	114
Number of wagons added	51
Number of counties reporting rural-school supervisors	11
Number of boys enrolled in corn clubs	978
Number of girls enrolled in tomato clubs	709
Number of libraries established	118

Number of counties reporting industrial training in schools	16
Number of school improvement leagues organized	62
Number of schools reported with school gardens	17
Number of counties reporting individual drinking cups in schools. .	5

The above table clearly sets forth the wide range of activities in which the state supervisor is the guiding spirit. He is the pivot around which revolve all these campaigns for new levies and increased taxation, for consolidation and transportation, for expert supervising teachers and for general school betterment. It is to him that we look for the solution of the rural-school problem.

V THE RELATION OF THE COUNTY SUPERINTENDENT TO THE SCHOOL DIRECTORS AND TO THE STATE DEPARTMENT OF EDUCATION

U. J. HOFFMAN

State Supervisor of Country and Village Schools, Springfield, Illinois

It is the purpose of this article to give one method of co-operation of school officers in bringing about progress in one phase of their work. To try to cover the whole subject would require more space than can be allotted to this topic.

In Illinois the duties of both the county superintendent of schools and the superintendent of public instruction are advisory rather than directory. The theory of the system is that the school is a local institution. Its control is in local officials elected by the people of the district. The revenue is derived largely from local taxes levied by the local officers. The state's contribution is less than 5 per cent of the expenditures.

There are 10,638 districts maintaining one-room schools. The number of directors who administer the affairs of these districts is 31,914. A single county with 251 schools has 753 directors.

The county superintendent, having to visit these schools at least once a year and having to supervise these teachers, is a very busy man if he tries to do his duty. He cannot possibly do all that is expected of him with the assistance which is given him. His duty to be the official advisor and constant assistant of school officers has had to be done only when these officers called upon him for advice and assistance. The directors have come to recognize the county superintendent as the supervisor of the work of the school. The course of study, the organization of the school, the methods of teaching, the examination and promotion of pupils have been turned over to him, although the statute puts these things in the directors' hands.

The greatest deficiency in the one-room schools of Illinois is found in the housing and the equipment. As a general rule, these are worse than they were thirty years ago, although the school work is much better now than it was then.

The superintendent of public instruction is made by law the supervisor of all the common schools of the state and is to advise and assist the county superintendents, addressing to them, from time to time, circular letters relating to the best manner of conducting schools, constructing schoolhouses, and furnishing the same. When the present superintendent, Francis G. Blair, entered upon the duties of the office, he saw clearly that the improvement of the physical conditions of the one-room school and the creation of a more active desire for better schools presented a fruitful field of effort for the Department of Public Instruction and the county superintendent.

Instead of relying wholly upon circular letters, he determined to send a man out into the field to inspect the schools and to confer personally with the county superintendent, teachers, and the local directors. He did not wait for the legislature to supply him with additional help, but so divided the office work that one man was left free to go into the field. The legislature soon appropriated additional funds and there are now two supervisors of country and village schools devoting all their time to this work and they are out in the field while schools are in session.

THE ILLINOIS PLAN OF CO-OPERATION BETWEEN STATE SUPERINTENDENT, COUNTY SUPERINTENDENT, AND SCHOOL DIRECTORS

A pamphlet was prepared which contains chapters on the needs of the one-room schools: lighting, heating, ventilation, seating, library, apparatus, decoration; the schoolhouse, plans and specifications for a modern house, also specifications for remodeling old houses; school officers, their duties and powers; the teacher, the work peculiar to a country teacher; the organization of a one-room school. These topics are treated in great detail. The requirements for a standard school are set forth as follows:

REQUIREMENTS FOR A STANDARD SCHOOL

YARD AND OUTBUILDINGS

1. Ample playground.
2. Good approaches to the house.
3. Two well-kept, widely separated outhouses.
4. Convenient fuel-house.

THE SCHOOLHOUSE

1. House well built, in good repair, and painted.
2. Good foundation.

3. Well lighted.
4. Attractive interior decorations.
5. Good blackboards, some suitable for small children.
6. Heated with jacketed stove in corner, or a room heater and ventilator in corner, or basement furnace which brings clean air in through the furnace and removes foul air from room.
7. Floor and interior clean and tidy.

FURNISHINGS AND SUPPLIES

1. Desks suitable for children of all ages, properly placed.
2. Good teacher's desk.
3. Good bookcase.
4. A good collection of juvenile books suitable as aids to school work as well as general reading. Pupils' Reading Circle organized.
5. Set of good maps, a globe, dictionaries, sanitary water supply.

THE ORGANIZATION

1. School well organized.
2. Classification and daily register well kept.
3. Definite program of study.
4. Program of recitation.
5. Attendance regular.
6. At least seven months school.
7. Discipline good.

THE TEACHER

1. Education: The equivalent of a high-school course.
2. Must receive at least \$360 per annum.
3. Ranked by the county superintendent as a good or superior teacher.
4. Must read Teachers' Reading Circle books and attend institutes and meetings.

A diploma is offered to the school which meets these requirements and a plate is placed above the front door on the outside, bearing the words "Standard School," which can be read by those passing along the road.

The state supervisor and the county superintendent visit the school usually by automobile, the directors having been invited to be present. The school is inspected and everything that is right is pointed out. If there are deficiencies, they are noted and suggestions given as to what would be satisfactory. If the improvements have not been influenced by the pamphlet which has been sent to the directors, the deficiencies

usually are: heated with a bare stove in the middle of the room, desks too large for the children or so placed that the children are uncomfortable. If there is a library, it is composed of books far beyond the children and not at all related to their daily lives or school work. There may be no maps, globes, and minor supplies. The walls may need decorating or outhouses and yard may need attention.

Directors are told how a stove may be jacketed or, what is better, a room furnace installed; what desks are needed and how they should be placed; the kind of books that should be in the library. The teacher must be superior, good, or at least fair.

The county superintendent's judgment is relied upon, as only a half-hour can be spent at a school. Ten schools a day is the usual number visited.

As nearly as may be all parts of the county are visited in the two or three days the supervisor can spend in a county. The newspapers give the visit wide publicity and a great interest is aroused among the people, teachers, and children, especially if several schools are approved. The county superintendent and teachers as well as the children of the schools not standardized exert themselves to get the improvements needed so that their schools may also be recognized by the state superintendent as up to what they should be. The people generally learn that the standard schools are decidedly better and ask why their children may not be as well provided for. The improvement idea is contagious and when once started reaches every school. Many schools are improved which do not reach the standard at once, but will reach it as soon as the money can be procured.

After the visit of the supervisor, the county superintendent checks up schools and recommends them for diplomas. When interest has once been aroused he has great influence with boards of directors in getting the right things done. He invites them to meet him at the school. They go to see him in his office. He holds meetings of directors either at the county seat or more locally. He reports to them in writing the needs of their school to meet the standard set by the state. Teachers become ambitious to have their schools standardized. Good teachers refuse to accept a school when the equipment is not up to the standard. The plate appeals to the directors and the people. It is a careless community that is not reached when these signs begin to appear on other school-houses than their own.

A SUPERIOR SCHOOL

The transformation of many of the most disreputable schoolhouses into most comfortable, cosy, attractive schoolrooms was most surprising. The willingness of directors to spend sums of money that the supervisor would have feared to suggest is no unusual thing. The influence of this spirit of improvement caught by directors and people has a decided effect upon the teacher, pupils, and the work that they do. They are proud of their reputation and try to live up to it.

The demands on the part of directors for the recognition of a higher degree than a standard school led the superintendent of public instruction to offer a diploma for a superior school. A standard school is one which has all the essential equipment, and a good or fair teacher. A superior school is one that has everything which a good teacher can use. The lighting must be exactly right, the decoration of the walls must be in good taste, the water supply wholly sanitary, the house must contain separate cloakrooms for the sexes. Manual training, domestic arts, and agriculture must be taught. The teacher must be a superior teacher; a good or fair teacher will not answer.

The purpose of this diploma is to influence the building of the new schoolhouses and the employment of teachers whose superior qualities are recognized.

REQUIREMENTS FOR A SUPERIOR ONE-ROOM SCHOOL

Standard schools which have all the requirements specified in the following will be awarded a superior one-room school diploma.

GROUNDS

1. Playgrounds at least one-half acre and kept in good condition.
2. Level, covered with good sod.
3. Some trees and shrubs.
4. Well or cistern and sanitary drinking-appliances.
5. Two outhouses widely separated and well kept.
6. Good convenient fuel-house.

HOUSE

1. Ample schoolroom.
2. Separate cloakroom for boys and girls.
3. Outside painted, in good repair.
4. Inside walls properly tinted and clean.
5. Lighted from one side or from one side and the rear.

6. Adjustable windows fitted with good shades.
7. Floor good and clean.
8. Heated with basement or room furnace which brings in the pure and removes the foul air.
9. Sufficient blackboards, some within reach of little children.
10. Desks of No. 6, 5, 4, 3, 2 placed each size in a row properly spaced.

FURNISHINGS AND SUPPLIES

1. A good teacher's desk.
2. Two chairs.
3. A good bookcase.
4. At least eighty library books, ten suitable for each grade.
5. A good school encyclopedia.
6. Three dictionaries suitable for high-school, grammar, and intermediate grades.
7. Writing and examination supplies.
8. Two good wall pictures.
9. Set of good maps.
10. A good globe.
11. A set of measures and scales.
12. A thermometer.
13. All schoolbooks for teacher's use.
14. Crayon, erasers, pointer, coal hod, shovel, poker, broom, floor brush, and sweeping-preparation.
15. Wash basin, mirror, paper towels.
16. Combination daily and classification register, schedule of school property, including list of library and text books, monthly report cards.

ORGANIZATION

1. School classified and recorded in register.
2. Program of study and recitation.
3. Formal tests given, papers on file.
4. Certificates of membership and records of reading in Illinois Pupils' Reading Circle.
5. Provision for instruction in elements of agriculture, manual training, domestic arts. Agricultural and nature-study notebooks on file.

THE TEACHER

1. A high-school graduate and some training at a normal school.
2. Holds first-grade certificate.
3. Salary at least \$480 per annum.
4. Reads Teachers' Reading Circle books.

5. Attends county institute and teachers' meetings.
6. Makes all records and reports required by the county superintendent.
7. Ranked by the county superintendent as a superior teacher.

STANDARD OF WORK

1. The work outlined by the state course of study must be well done.
2. The discipline must make good school work possible and tend to establish sound character.

AN ILLUSTRATION

The county superintendent and the state supervisor of country schools called at a schoolhouse. One director had responded to the invitation to be present. It was a hopeless case. There was hardly enough ground in the yard for the children to play "Ring Around the Rosy." The walls were dirty and elephant ears were hanging from the ceiling. The old rusty stove occupied one-fourth the room and took its share right out of the middle. The desks were double, black with age, and seamed by generations of carvers. There was no library, and only ragged maps. There were, however, thirty wide-awake children and a good teacher. The supervisor minutely described how the house should be heated, seated, and decorated, and made an appeal to the children, teacher, and director to provide a house fit for these children. He said if there were no children here, if those who were here did not amount to anything, it would not pay to go to all this expense. But the large number of children so healthy and so wide awake were just the stuff to make good men and women. The school is their chance. If they will have the best school, they will have the best chance to become strong and useful men. It won't pay to save the money now. It will pay big to use a little money to buy so good a chance.

The director asked, "Well, what do you advise us to do?" The supervisor replied, "There is only one thing to advise, that is to build a new house on a larger piece of ground. It is not possible to commend anything except the teacher and the children."

The next year the county superintendent, without saying anything about what we were coming to, drove up to the same schoolhouse. Things looked different. Three directors were waiting. They pointed out that they had added an acre to the ground. When we stepped inside we were in a clean attractive room. There were new single desks of such sizes and so placed as to fit the children, a room furnace in one

corner, a sectional bookcase filled with books also to fit the children, two good pictures on the wall, and the children beaming with happiness.

While the superintendent was privately commending everything that had been done, one of the directors replied, "Last year we two stayed away because we were ashamed to come out." They said, "We tried to make this school as nearly as you said we should as we could." And they were not ashamed, but quite as happy as the children. They and the people now point with pride to their neat house, large grounds, and to the plate above the door showing that theirs is recognized by state authority as a standard school.

THE RESULTS

The results far surpass the expectations of the originators of the plan. The first year 150 schools were granted diplomas. The second year the number reached 300, the next 650, and the present year will reach 1,300. Several of the smaller and medium sized counties have reached 60 per cent and the largest county in the state, McLean County, with 230 one-room schools, has 110 standard schools within two and a half years. These numbers are gratifying, but to ride through the counties and visit these improved schools is a delight to one who wishes to see the country school become what it may become, all things considered—the best elementary school in America.

Those who have become convinced that the only solution of the country school problem is to consolidate the one-room schools into one district and have a centralized elementary and high school will wonder what effect this plan will have on that movement.

As long as the people believe their schools are about as good as they can be made, they will oppose consolidation for reasons which are entirely satisfactory to them. When they see that schools can be made better and when they and their children become desirous of even better schools, especially high schools, they will become more receptive toward what looks to high-school privileges at home in the country. Instead of retarding the day of the consolidated school, it is more likely to hasten it. The prospect of a good high school which country children can attend and yet be at home every night is the only appeal which the consolidated school makes to the country people. The plea that the consolidated school will be a great instrument of social betterment for the country people does not appeal to them as it does to those city

people who are so desirous for social progress in country life. They believe the schools are for the education of the children, not for the transformation of the mature population. When they see that their children need a country high-school education, they will provide the country high school. A really good elementary school now is most likely to set them in the right way of thinking.

The success of this movement depends primarily upon the county superintendent. If his heart is in the work, if he has the energy and the skill to meet and appeal to the directors, he can get what he wants for the children. They are men of good common-sense. They readily see that this does not smack of fads and fancies but that everything asked for is really needed. They are glad their county superintendent has taken interest enough to come to them. It is only a question of not letting them forget it. They will act. When they have brought their school up to standard they are the best-pleased men in the community. They may at first be condemned by those who wish to keep down expenditures, but when the work is done the people of the district recognize its merits and only commendation meets the directors.

VIA. THE DEVELOPMENT OF A COUNTY SYSTEM OF EXPERT SUPERVISION; INCLUDING SUBURBAN, VILLAGE, AND RURAL SCHOOLS

ALBERT S. COOK

Superintendent of the Schools of Baltimore County, Towson, Md.

I shall attempt to present in the brief space allotted, the main points in the development of a system of expert supervision in Baltimore County, Maryland, believing that our experience in this "special case" may have some bearing on the important problem of determining the most effective plan of county-school organization, administration, and supervision.

In Maryland, the county is the unit; for all purposes of school administration the county is a municipality. The county board of education (officially designated "The Board of County-School Commissioners") is composed of either three or six members, appointed by the governor for a term of six years, the terms of one-third of the members expiring every two years. This county board of education has entire control of the school affairs of the county, except that of fixing the tax rate for schools. The tax rate is fixed, beyond a certain state minimum, by elected officers who have charge of the other governmental functions, but the County Board of Education has entire control of all expenditures for public education. By this organization the principle that the strong must help the weak is applied in the distribution of county funds, just as it is applied in practically all of the states in the apportionment of state school funds.¹ In other words, the state and county appropriations for schools are distributed by the County Board of Education according to the *needs* of the respective communities of the county, without special regard to the *tax-paying ability* of the various communities. This brief statement is necessary in order to show how a county system of supervision is possible in Maryland.

Baltimore County has an area of 630 square miles, with a population of 123,000, and is entirely separate and distinct from Baltimore City. There are in the county, in round numbers, fifty *one-teacher schools*,

¹ See Cubberley, *School Funds and Their Appropriation*.

fifty *two-teacher schools*, and forty-five schools having from three to forty-nine teachers. The larger schools are mainly in the belt almost surrounding Baltimore City, and are easily reached by trolley from the city. The one- and two-teacher schools and several consolidated schools are almost entirely in strictly rural communities.

In the year 1900 the supervisory force consisted of a superintendent and assistant superintendent, having the usual administrative duties of a county superintendent, and, in addition, having the financial and clerical work involved in accounting for all expenditures on the schools. These two officials visited each school twice a year, each devoting about one hundred of the two hundred days the schools were open to the work. No more was possible. The principal of each school was a teaching principal, responsible at all times for a class, and therefore able to do only the administrative work of the school, with no time for grade supervision.

The County Board of Education of six members, including farmers, merchants, and other men of affairs, soon came to see the necessity for more money and better supervision. The first step, after two years, was the employment of a clerk and stenographer. This gave the superintendent and assistant more time for visiting schools. Members of the board were taken with these two officials on their tours of school inspection just as often as possible, in order that the board might see and understand what it was possible to do to help the schools even in two short annual visits, and the importance of better supervision was constantly kept before them.

In the meantime a campaign for better schools and more money for schools was quietly but persistently kept up, in order to develop a strong public sentiment in favor of improved schools. Local teachers' meetings conducted by the superintendent were organized in all sections of the county in 1901; in these meetings the teachers became better acquainted with one another and with the superintendent. A year or two later these local meetings were conducted by principals of the larger schools, and in the rural communities by principals of two-teacher or larger schools who were able and willing to do so, and the superintendent organized a "Monthly Saturday Round Table for Principals of the Larger Schools and Leaders of Teachers' Meetings," to which a limited number of other teachers was admitted by special permission. This

was, of course, an optional meeting, but the local meetings in the larger schools were not optional and school was closed on Friday at two o'clock once a month for the purpose; in the rural communities the teachers of adjoining schools could close schools at noon to attend, or continue teaching, if they could not attend.

The first impetus for improved schools, better teaching, and consequently better salaries, thus came through these meetings, through the teachers themselves.

To bring the community in closer touch with the work of the schools, parents' meetings and civic organizations of men and women were addressed by members of the teaching force and the superintendents. No invitation to address these meetings was declined if it was at all possible to be present, and it nearly always was possible.

The needs of the schools were thus constantly kept before the public by interested citizens, teachers, the school authorities, and the local press. Portions of annual reports containing the plans of the Board and reprints of addresses made were mailed to a selected list of four thousand citizens. These lists, made by the principal of each school, contained one-fifth as many names of citizens, not necessarily patrons of the schools, as there were pupils in the local school. The public was thus taken into the Board's confidence, and the lines along which improvements were contemplated were known a year or two in advance. Some plans were necessarily modified, while others waited several years for favorable public sentiment to develop. Every movement toward improved schools began in a small way in a few schools. The plan was tried and modified to suit conditions and then gradually extended to other communities where conditions seemed favorable. Growth was slow, but on a sure foundation, and no backward step was taken.

The Board of Education was able to begin improvements in a few favorable localities through financial aid from the patrons of the schools. Domestic science began by the employment of a part-time teacher for one year by the patrons of a large school with the understanding that the Board would take over the work the following year, if successful. The women's clubs of a few other communities asked the Board to extend the work to their schools. Manual training was begun at about the same time in a similar way. Farmers' clubs and granges began to urge improvements in the rural schools. Consolidation of schools

began and an agricultural high school, a long-cherished project of two of the older farmers' clubs of the county, was revived in earnest, and finally in 1909, became an established fact.

Sentiment for better school buildings, better heating and ventilating, better sanitary arrangements, was easily aroused. "The modern school must be as well adapted to the purposes of the school as the modern home is to the purposes of the home" was our slogan.

All of these movements for school improvement helped one another, but the main purpose, *better supervision*, was kept constantly before the Board, illustrated by examples from the business world, and from their own private business. Why take so much time on this phase of the problem? *Because there can be no real progress without the force of a strong public sentiment for better schools back of it.* This is the most important single principle that the school administrator must keep in mind, in season and out of season. To forget it is fatal; illustrations of fatality are before us constantly. Constructive work in the organization and improvement of schools is not possible in a community that does not want better schools; but there is always some community in every county, I believe, that is ready for a little progress, and that community should be the administrator's point of attack.

More and better supervision of schools was needed in Baltimore County; how was it to be secured? The first problem for us might be stated thus: the teaching principal with administrative duties and expert grade supervision v. the non-teaching principal with administrative *and* supervisory duties. To have adopted the latter plan in twenty of our larger schools averaging ten teachers each would have required twenty additional teachers costing approximately twelve thousand dollars, and reaching only a small percentage of our schools. It has been my observation, too, that by the latter plan, as it works out in many city systems, the non-teaching principal with administrative and supervisory duties, comes more and more to be an administrative officer, with less and less emphasis on the problem of real constructive grade supervision. There are many notable exceptions, no doubt, in every large school system, the more notable because they are exceptions.

In my judgment, based on years of observation and visitation of schools in various cities, expert grade supervision is the most difficult, as well as the most necessary aid to good teaching to be secured in any system of schools. Be this as it may, the plan for a beginning in grade

supervision was within our reach, and, as the first four grades contained many more pupils than the four higher grades, in September, 1905, an expert in primary work was appointed Supervisor of Primary Grades. She began work in the first grade of nine of our larger suburban schools. After visiting these schools with me, and studying conditions for two weeks, the supervisor arranged to meet the twenty-three first-grade teachers in one of our schoolrooms on the second and fourth Friday afternoons of each month, to outline work, and to suggest how to plan all phases of primary work—language, reading, number, nature-study, stories, games, physical activities, and seat work. The supervisor then visited each of these teachers twice in three weeks, spending more or less time with each teacher as circumstances required. On the first Saturday of each month an optional meeting for all first-grade teachers of the county was held to prepare the way for future work in these schools. Practically all the teachers invited came to these meetings. The work in the first grade progressed so well that on November 17, 1905, the ten second-grade teachers in these schools were taken in as a new group. In January, 1906, eleven schools were added, with thirteen first-grade and ten second-grade teachers. In all fifty-six teachers and about twenty-five hundred children were reached during the first year. During the second year, twenty-six schools were represented in the work undertaken, with ninety-four teachers, forty-six in charge of the first and second grades, and forty-eight in charge of the third and fourth grades. Teachers' meetings were held regularly on the first and fourth Friday afternoons of each month.¹ The purpose of the meetings was to create a stronger professional spirit, to develop and discuss various phases of the course of study, to present lesson plans, and to give definite aid along any line suggested by the teachers.

Daily classroom visits were made, observing, teaching, and testing the classes as occasion seemed to demand. Conferences were held after dismissal of classes, either with the individual teacher visited, or with groups of teachers, and the subject-matter and method of work as presented were discussed.

The Board during this second year appointed one of the most efficient primary teachers as substitute teacher. Part of her work was to relieve the grade teacher for a day, so that a day's visit to another school might be made. The substitute spent a day with a teacher, previous

¹ First published *Report of the Supervisor of Primary Grades*.

to her visiting day, becoming acquainted with her work, giving her help in lesson plans, management of class, drawing and hand-work, then taking the day's work in the teacher's absence.

In September, 1908, a Grammar-Grade Supervisor was appointed. She began work with three groups of teachers, meeting two of the groups, fifth grade and sixth grade, at the town office, and a group of rural-school teachers at a rural school centrally located in their district. There were about twenty-five teachers in each of these groups so that the work of about seventy-five classrooms was influenced. This organization of the work continued for two years.

In September, 1910, the Seventh-Grade Group was organized, and in September, 1911, the Eighth-Grade Group. In all, the Grammar-Grade Supervisor had five groups of teachers, averaging twenty-five each. The number of afternoon meetings of each group with the supervisors was gradually reduced from one or more a month to five stated meetings a year, but the supervisors may call any small group of teachers to a three o'clock meeting not oftener than once a month for any one teacher. In practice, no teacher attends such a meeting more than two or three times a year; many, none at all.

The extreme limit for good grade supervision for one grade supervisor is one hundred teachers. As this limit was reached and passed in 1911, and as we were requiring help from the supervisors in other groups of teachers, the problem of an addition to our supervisory force confronted us. Either an additional expert supervisor for some of the intermediate grades between second and sixth could be provided, or one of the most efficient grade teachers in the primary and grammar grades might be chosen to assist each of the two supervisors. After a thorough consideration of this problem for more than a year by the Board of Education, the supervisors, and superintendents, for we saw the problem far ahead, we unanimously decided for the teacher assistant. Each supervisor was permitted to choose her assistant, and in each case an exceptionally strong teacher was chosen, naturally; but also a teacher who was especially strong in some phase of the work where the supervisor needed most help herself; in one case, music; in the other, industrial arts. Both of these teachers assist in the various kinds of office and field work, and the supervisors have an expert stenographer three weeks out of every four; the other week of the stenographer's time is given to extra work in the office of the superintendents.

Beginning in 1910, the superintendent organized an all-day meeting five times a year for *one-teacher rural schools*. These meetings were in a measure preparing the way for the appointment of a special supervisor in this field. As programs for such meetings are not often found in print, I present a typical one here with explanatory notes following:

TOWSON, MARYLAND

April 20, 1911

To the Teachers of the One-Teacher Schools:

The fourth meeting of your group will be held at 300 N. Charles Street, Baltimore, Md., on Friday, April 28, at 9:30 A.M. Delay in arrival of a few will delay the work of the group, so please be prompt.

The topics for the day will be—

- I. Report on sets of pupils' papers handed in at the last meeting and a discussion of your report on work done during the month by the Superintendent. 30 minutes.
- II. The Reading Assignment. 45 minutes. By Miss Tall.
In preparation for this read carefully "Reading and Literature" introduction, pp. 218-21 in the Course of Study. Come prepared to take notes.
- III. Singing of songs suitable for one-teacher schools. 30 minutes. Conducted by a Grammar-Grade teacher.
- IV. (a) What "community work" have you done since our last meeting?
(b) What school or home garden work have you initiated since the last meeting? (Replies in answer to roll-call during the meeting.) 45 minutes.
- V. Chap. xi, pp. 205-33, of Foght, *The American Rural School*. 60 minutes. Study this chapter with special reference to your own school community, remembering that the older boys and girls who are in school only for part of the year, or even not in school at all, have a claim on the school and should be helped by the school. Your efficiency and the efficiency of your school will, in the near future, be judged by your ability to undertake and carry out all the activities that a modern rural school stands for. We shall begin to organize clubs early in the Fall term. Mr. Crocheron will outline a plan of procedure.
- VI. Report on "Domestic Science in a Rural School." 15 minutes. Miss Mabel E. Stanton, Loreley. Read again Miss Stanton's article, p. 29 of the April *Atlantic Educational Journal*.
- VII. Discussion of the Report of the Committee on Literature. 30 minutes.

Four and a half hours of work are planned, including 15 minutes for a rest period in the afternoon. The sessions will be from 9:30 to 12:00, and from 1:00 to 3:00, providing everyone is on time.

I should like all the teachers to bring lunches. Coffee will be provided, and we will arrange a luncheon table in the room, and illustrate how the pupils of a one-teacher school might have luncheon together daily.

Sincerely yours,

ALBERT S. COOK, *Superintendent.*

The assignment for Topic I, made at the meeting, six weeks before, was Bring with you—

- (1) One set of papers in language, grades 1-3.
- (2) One set of papers in arithmetic, grades 4-8.
- (3) One set of papers in spelling, grades 3-6.

By a set of papers is meant a paper from each member of a grade present when the work was given.

Important.—All work must be done on the 6×9 pencil paper, with lead pencil. The subject, grade, and school must be placed on each paper for identification.

For Topic III, the assignment was—

Bring a list of the songs that your pupils sing as a regular part of their school work.

Topic IV. We permitted "Community Work" to include any activity of pupils or teacher that tended to bring the home and school into closer relationship, from the teacher's visit to a parent, to the organization of a corn club.

Topic V. Mr. Crocheron is the principal of our Agricultural High School, and through this school the corn clubs were organized and their activities directed.

For Topic VII the Committee on Literature selected stories and poems suitable by grades for the first three grades of a one-teacher school.

During this meeting we also worked out a plan for having the children eat their lunches together during the first twelve to fifteen minutes of the noon recess. This plan has been worked out very successfully in all our rural schools.

It will be noted that Miss Lida Lee Tall, our supervisor of grammar grades, had charge of Topic II. At other meetings Miss Isobel Davidson, supervisor of primary grades, assisted in presenting some one definite phase of subject-matter. In this way much help was given by

experts where help was most needed. You will notice, too, that one principal, one grade teacher, and one rural teacher assisted in the program. I may as well say here as at any other point that the one best thing in all our supervisory group meetings is the help that the group gets from its own members who are especially strong in one or more phases of school work. The fundamental conception of our supervision is to bring to each member of the group the collective strength of all its members, and to each group, through the supervisors, or through individual members of the group, the collective strength of all the groups, in so far as this may apply to their work. In other words, co-operation for professional growth, both by giving and receiving on the part of teachers and supervisors, is our aim.

In September, 1911, two new supervisory groups were formed, composed (a) of the principals of all the two-teacher rural schools, and (b) of the assistant teachers in all the two-teacher rural schools. The work in these groups was planned by the supervisor of grammar grades and the supervisor of primary grades, respectively, and four all-day meetings were held, as it is not possible to close these schools for a half-day meeting because of the distance from the place of meeting. As each of these groups contained fifty teachers, they were divided into two sections this year; this will also be done with the one-teacher rural group of fifty.

A plan which the Board has had under consideration for the past five or six years was announced in September, 1912. A supervisor of rural schools was appointed. The delay was in part due to the difficulty in securing a man properly equipped for the work who was thoroughly familiar with the school situation in the rural districts of the county. We wanted a man who knew the work of the elementary school well enough to be an excellent grade supervisor, but who had grown up in a rural community, and had taught in a one-teacher rural school. The Board unanimously elected Mr. Clarence G. Cooper, who had taught a one-teacher school in 1900, and had passed through the various positions as principal up to the principalship of one of our largest schools; who had then gone to teach in the Speyer School, New York, taken a Bachelor's degree and diploma in teaching in Teachers College, Columbia University, and had then returned to organize one of our largest schools in a new suburban district. I mention this to show the importance we attach to the qualifications of a man for this special work.

The Rural-School Supervisor will devote his entire time to the study of rural-school problems, and will assist in their solution in Baltimore County. The first year will be devoted in the main to some of the more isolated one-teacher schools and their problems, coming into close touch with parents, pupils, and teachers, with a view to securing unity in the fundamentals of school work, and making a beginning in organizing the rural schools for rural life.

Beginning with September, 1912, therefore, every teacher in the elementary schools of Baltimore County became a member of a supervisory group of not over thirty-five teachers, and all but two of the thirteen groups are in charge of a grade supervisor who visits the teachers of that group, assisted by any member of the teaching or supervisory corps who can do especially well the thing needed to be done. The other groups will for the present be visited by the assistant superintendent, but the grade supervisors and others will assist in planning and conducting the work of these group meetings, as heretofore. The superintendent will aim to visit every school in the county for inspection once during the year.

The work in home economics has grown to include the girls in the sixth, seventh, and eighth grades of some of the two-teacher schools and the three-teacher and larger elementary schools, and is continued through the four years' course in our five high schools. A supervisor gives all of her time to this work, assisted by seven special teachers of domestic science, and about sixty grade teachers who teach sewing in the fifth and sixth grades under her direction. A beginning in the organization of domestic-science clubs for rural girls in and out of the rural schools will be continued under her direction. The supervisor of manual training has been relieved of teaching a class three days a week for the past few years so that he may look after the work with the *boys* of the sixth, seventh, and eighth grades and of the five high schools. He is assisted by six special manual-training instructors. The domestic-science and manual-training teachers travel from school to school on a weekly schedule, taking the boys and girls of the same class at the same hour, so far as practicable. There is no other supervision of special subjects except through the grade supervisors and their teacher assistants.

The entire cost for salaries and traveling expenses of the three grade supervisors (primary grades, grammar grades, and rural schools), the

two special supervisors (home economics and manual training), and the two teacher assistants is less than the cost of having non-teaching, or part-time teaching principals in from twenty to thirty of our larger schools; the administrative work of our principals has become more efficient, and the work of the grade teachers as well as of most of the rural teachers is conducted under the sympathetic co-operation of expert supervisors.

Some time after the passage of a state law providing for two grade supervisors in counties where the number of teachers exceeds one hundred and fifty, and one additional supervisor for every additional one hundred teachers, the following statement of what the supervision in Baltimore County has aimed to do was prepared by Miss Tall, our Supervisor of Grammar Grades, at the request of a member of the Board of Education:

WHAT SUPERVISION IN BALTIMORE COUNTY HAS AIMED TO DO

1. To improve the methods of presenting subject-matter to the pupils.
2. To teach both teachers and pupils how to study.

The problem of how to study is one of the most important problems in the focus of attention in school work today. Not only must pupils in the elementary schools learn how to use the index, table of contents, footnotes, and marginal notes in textbooks, but they must also be able to do independent work in selecting and arranging related facts and facts that are most worth while, when answering a lesson problem that is put to them.

In Baltimore County whenever a teacher, particularly interested in any subject, makes a good outline for the topics in that subject, this outline is mimeographed and a copy given to all the teachers of the same grade in the county. These outlines are discussed, criticized, the references noted, corrected, and used as a basis for further work.

3. To provide an adequate textbook equipment.

We have tried to put the best books, not only into the hands of the teachers, but also into the hands of the children. We have had the liberal support of the School Board in this, and though we could not give an adequate textbook equipment to all schools during the first year that the course of study was in operation, it was decided to give the two-room rural schools a complete equipment. The reason for this is obvious; seatwork is the most difficult problem the rural teacher has to meet; her textbook equipment should, therefore, be of the best. The one-room rural school did not receive the same attention that year because, unfortunately, the teaching population of the one-room rural school is not as static as that of the two-room rural school; but in these schools, and in the large schools where the expense is necessarily large because of the numbers of pupils, the improving of the textbook equipment is steadily going on.

4. To make a tentative course of study that presents enough difficulties to keep the brightest teacher alert in her work, and at the same time that does not discourage the weakest teacher.
5. To adjust the teaching force to this course of study by showing month by month and year by year that the course is based upon sound principles and upon children's interests, powers, and development.
6. To use the strength of the teaching force as it develops to improve this course of study, so that the course will finally be one made by the teachers, not one imposed upon them.

The course of study, in its present form, has been in use four years. The primary-grade section shows a revision of the course made seven years ago. The grammar-grade section, organized four years ago, will be revised this year, and committees of teachers will bring their classroom experiences to bear on this revision.

7. Through the intelligent working-out of the course of study with its minimum and maximum requirements, to make work in the grades show a definite sequence. This means evaluation of the topics in each subject, and of the texts for that subject, for each grade.

The advantages of this should be felt in the grading of pupils and in the transferring of pupils from one section to another.

At the group meetings for the first year only two topics were assigned for discussion—history and reading. Naturally in the general comments that came up all the subjects were touched, but we worked with concentrated attention only upon the two assigned. The next year one more topic was added to these two, and the three discussed. The hygiene of the daily program was studied by committees of teachers from the various groups, and their conclusions were formulated in a report that was put into the hands of each teacher together with a suggested daily schedule to be tried for one year.

8. To form a bond for unifying the county; to harmonize (a) pupils and teachers, (b) teachers and principals, (c) teachers and superintendent, (d) school and community.
9. To study the teachers intelligently as individuals; to encourage and use strong teachers; to encourage and help the weak ones to grow strong.

After all this is the crux of supervision—to understand the teachers spiritually, physically, mentally, morally, and socially, to be able to put one's self in the teacher's place, to work forward from the teacher's point of view—this is the most vital task of the supervisor. Isolation means retardation not only to a teacher, but to every individual trying to do the work of life. Co-operation levels barriers, fosters sympathy, and makes it possible to strengthen the work by using the talents of the teaching force. We use our strong teachers to give observation lessons; for art instruction with the groups; for music with the groups; for making outlines for other teachers; for organizing patrons' clubs; and for trying out experiments which later are to be presented to the group.

10. To prove to the teaching force that all members of the group must look at the work sanely, with due regard for health, and also with business insight—salaries must be earned, and in a profession as in a business there should be value received.

A teacher must look her own motivation for entering the profession fairly and squarely in the face. When it comes to pass that she understands her motive for entering this field of work, and her motive for continuing in the work, then and then only will she know not only her strength and weakness, but also the combined strength and weakness which determines the character of the school as a civic institution.

11. So to develop the work that the teachers as a body may realize that there is always opportunity for improvement. Since the laboratory in which we work contains the individual souls and minds of children, a permanent chance is given to every teacher to grow. No one should be satisfied, yet, withal, there must be optimism.
12. To develop initiative in teachers and through them to develop initiative in the pupils.

The world needs leaders of men. The mass must be educated so that out of it may spring leaders.

13. To bring the public in touch, as far as possible, with the work of the school.

The community has unmet school needs. The school must learn of these. The school has needs unmet by the community; the community must learn of these. The closer the school and community work together, the better will the teacher's real value be understood and appreciated (not only in sentiment, but in dollars and cents) and the better will the community realize that the "Community is the School."

The accomplishment of these aims has been attempted by means of the following projects:

- a) The Teachers' Annual Institute of two weeks on the summer-school plan.
- b) The course of study.
- c) Monthly group meetings.
- d) Individual conferences.
- e) Visits to schools.
- f) Teaching lessons for teachers.
- g) Observation lessons taught by a teacher in the classroom, followed by critiques conducted by the supervisor.
- h) Observation lessons at group meetings, the class taught by the supervisor with discussion following the work.
- i) A music festival.
- j) Three annual flower festivals.
- k) Community spelling matches.

- l) Community arithmetic tests.
- m) Office equipment.
- n) Telephones.
- o) Patrons' Meetings.
- p) A monthly requisition of specimens of grade work (not show work) brought into the office from all the schools.¹

CONCLUSION

This is what grade supervision has aimed to do. As you read you will ask the question, Has it been accomplished? Yes and no. Accomplished in so far as ideals of work once formulated and steadily worked toward are making their influence felt. No, in the fact that fortunately we shall never "arrive" in education. As soon as the teaching body co-operates in one thing the horizon is broadened and we push forward to better things. So we are working together—teachers, supervisors, superintendents, school board, and community. With such co-operative forces, though growth may be slow, growth must also be sure.

¹ This work of the pupils is classified under subject heads and placed in boxes which are kept in the office and which are free to all teachers to look over when they please. Such a collection of work forms the basis for comparison of the work of one school with another, for help with beginning teachers, for incentives for pupils (many teachers sending in requests for a package of work so that their pupils may see what pupils in other schools are doing) and the comments and criticisms that result from the interchange of ideas must eventually unify the work. We have labored unceasingly to have the teaching body understand that the same results cannot be effected in all schools; when this is finally understood teachers will be more willing to stand by the educative process as a means to an end—that end being the development of the special individuals under their care without regard to uniformity of work, but with full regard to the *individuality* and development of the child.

VIB. METHODS OF SUPERVISION IN BERKS COUNTY, PENNSYLVANIA

E. M. RAPP

County Superintendent, Reading, Pa.

In this county for many years a campaign has been waged to raise the standard of the rural schools along the following lines:

I. IMPROVEMENT OF THE TEACHING FORCE

After fifteen years of a strenuous and aggressive campaign for a better type of teacher for our country schools, we are able to report for the coming year the employment of 350 state normal school graduates, 140 holders of state and county permanent certificates, 25 college graduates, 15 holders of professional certificates, and a score of holders of the provisional grade—the lowest grade certificate. Fully 95 per cent of the 550 teachers in Berks County had some state normal school training. Applicants for the lowest grade certificate for the last two years were supposed to have at least four years' high-school training supplemented by a year's professional training at a state normal.

Fifteen years ago 70 per cent of the teaching force held the lowest grade certificate. The greatest obstacle encountered in improving the qualifications of teachers were the so-called summer normals, academies, and seminaries, taught, for the most part, by mediocre teachers, where candidates for provisional certificates were prepared. That school was the most popular whose students readily would pass a superintendents' examination. Those subjects which would give self-reliance, vigor, and culture were set aside, and the minds of prospective applicants were sterilized and dwarfed in the perpetual drill of a handful of common branches. By rejecting the great majority of these applicants, these schools gradually went out of existence, until none of them survive today. Of the 550 teachers, 300 are male and 250 female, averaging 25 years of age, and fully 90 per cent are country-bred. The average salary is \$52.50 a month, or almost double that of fifteen years ago, and the average term not quite eight months. We are earnestly striving to keep the teaching corps in touch with the spirit of the times through

teacher's institutes, county, local, and district; association meetings and conferences, at least a half-dozen each year; reading-circle work; the county traveling pedagogical library, and by encouraging attendance at summer sessions of normal schools, chautauquas, and colleges.

II. THE CONSOLIDATION AND CENTRALIZATION OF SCHOOLS

After an agitation of almost two decades, less than a score of small schools in this county are abandoned and the pupils transported to graded and central schools. Marked improvement has been made where this has been done. We are convinced that in the organization of a well-planned series of consolidated central schools with connecting high schools lies, in large part, not only the solution of the rural-school problem but the solution of the rural community problem as well.

III. THE ENRICHMENT OF THE COURSE OF STUDY FOR COUNTRY CHILDREN

The course of study is largely the teacher, whatever it is on paper, and enrichment of the course must come principally through enrichment of the teacher. The slogans of our country have been for years, "stay on the farm" and "the country school of today for the country life of tomorrow."

Farm arithmetic, farm geography, country-focused literature are now the rule rather than the exception. Elementary textbooks in agriculture are found in all rural schools. We have tabooed the idealizing of captains of industry, railroad presidents, military heroes, standard-oil magnates, and beef-trust barons, and advocated the idealizing and intellectualizing of agriculture and country life. Every effort is made to place the school in agriculture into right relation to its environment, rather than to place agriculture into school. After all, the education that should be given boys who are to be farmers will make the best kind of foundation on which to rear the structure of any calling or profession. In order to give redirection of education in the country in this county the following movements were inaugurated:

a) The organization of boys' and girls' clubs for home industrial work with a membership of 1,500, organized seven years ago. This movement greatly vitalizes all school work, and this industrial work is correlated with drawing, language, composition work, arithmetic, and geography.

b) The organization of a country teachers' association.

The membership consists of every one of the 350 one-room teachers in the county and meets once a year at Reading for the discussion of rural-school problems. Only non-resident speakers are employed who are in sympathy with the country-life movement. Great good has come out of these meetings.

c) The establishment of a country-life book-shelf of 60 volumes in the office of the county superintendent and open free to every teacher and farmer in the county.

All of these books have a tendency to redirect the institutional life of the open country, to the end that a better rural civilization may be developed. A complete catalogue of the books is printed and forwarded to anyone desiring the same. The following are a few titles of the excellent publications:

The Country Life Movement, L. H. Bailey.

Chapters in Rural Progress, Kenyon L. Butterfield.

The Rural Life Problem of the United States, Horace Plunkett.

The Training Farmers, L. H. Bailey.

Rural Wealth and Welfare, George T. Fairchild.

The American Rural School, Harold W. Foght.

Institutional Work for the Country Church, Charles E. Hayward.

Adventures in Contentment, David Grayson.

Neighborhood Entertainments, Renee B. Stern.

Farm Boys and Girls, William A. McKeever.

Freckles, Gene Stratton Porter.

Co-operation Among Farmers, John Lee Coulter.

The Conservation of National Resources in the United States, Charles R. Van Hise.

The Satisfaction of Country Life, James Robertson.

d) The introduction of a soil-survey report and map of Berks County into each rural school.

The copies bound in paper covers, including both manuscript report of 50 pages and map covering this area, were obtained from our representative in Congress. The survey took place several years ago by the Division of Soils, U.S. Department of Agriculture, and required the work of five experts for six months' field work and cost the United States Government \$30,000, two years elapsing before completion. The soil map constructed on the scale of one-inch to the mile, is over four feet long and nearly three and one-half feet wide, showing in colors where

each kind of soil occurs on each ten acres in the county. It also shows the surface topography, public roads, steam roads, streams, post-offices, trolleys, and bridges. As a means of preserving the maps, local school boards were requested to frame them and cover them with glass and have them hung on the walls of schoolrooms. This request was generally complied with—the cost approximating \$5 each. Teachers are now required to teach the salient features of the manuscript report in connection with the teaching of local geography to all eighth-grade pupils, and all eighth-grade applicants for graduation have to undergo an examination in local geography based largely on this report.

The township high schools are expected to teach more in detail this report in connection with the teaching of physical geography and geology.

e) The inauguration of Field Day and play picnic for country children.

Saturday, May 11, 1912, was an ideal day for the holding of the second Play Carnival in the county. The weather could not have been more delightful, and this accounted largely for the big attendance, estimated at over 5,000, fully 2,000 more than last year. The normal-school authorities at Kutztown again made ample provisions for the accommodation of the multitude, and visitors were highly pleased with the detailed arrangements that ministered so much to the comfort and joy of the occasion. The song festival of the various high-school students of the county, the games and rhythms of the kindergarten children, the calisthenic drill and singing of the practice-school pupils of the Normal, the marching and gymnastic games of the senior normal students, the outdoor demonstration of over 50 games adapted to all grades below the high school, and the field and track events were fully up to the standard set last year. A new feature this year was an oratorical contest which proved very popular. There were 11 contestants, each representing after a preliminary contest his or her respective community. The awards were made as to originality, English, and delivery. Since each oration was not to exceed four minutes in delivery, the contest lasted less than an hour. Contestants were required to select one of the following topics: "The Neighborhood Community—How Improved"; "Our Competitive Field Day Exercises"; "The Boy Scout Movement"; "Woman Suffrage"; "The Schoolhouse as a Social Center."

The entries in the track and field events were almost double those of

last year, and the records were better. The relay races proved most popular. Trophies in the form of cups, badges, and pennants were awarded the winners. There were in constant use all day the May poles, slides, bowling alleys, swimming pool, tennis courts, swings, horizontal bars, see-saws, teeter ladders, and sand pits. Since the inauguration of this movement, the play activities of almost every rural school have been stimulated, the repertoire of games of the children considerably increased, and playground apparatus installed in many school plots as well as farm homes.

f) The standardization of one-room schools. The plan of standardizing one-room schools was inaugurated several years ago, and this proved most effective in placing our rural schools on such a high plane. The first year 4 schools received diplomas; last year the number was increased to 41, and by the end of the coming school year, fully 150 will measure up to the standard and become "accredited."

Each teacher and director is supplied with a four-page circular setting forth the 50 minimum requirements for a standard one-room school. The teaching and organization of the school count 75 per cent, and the physical equipment 25 per cent. Several applications were refused on account of inefficient teaching. Nearly every one of the 350 single-room schools made effort to qualify in some of the specified conditions in order eventually to reach the desired goal. Directors are vitally interested in the project, and in several instances this resulted in the erection of first-class buildings, with all modern improvements. It resulted largely in the installation of 150 sanitary room furnaces combining a system of heating and ventilating, principally the Smith and Waterbury systems, and also the installation of a number of sanitary bubbling fountains for one-room schools. The school code making mandatory the display of the flag, planting of trees, and improvements of out-buildings greatly facilitated this movement.

g) The introduction of traveling art exhibits for one-room country schools modeled and planned somewhat after the Turner free traveling exhibit. To the Civic League of Reading belongs the credit of inaugurating this movement.

Each exhibit contains a dozen carefully selected pictures mounted on cardboard peculiarly adapted for one-room schools and accompanied by books and leaflets on picture studies for the teacher. The child thus becomes familiar with a dozen good pictures a year.

The following constitutes exhibit No. 5 and gives an idea of the excellent selections of pictures:

"Horse Fair," Rosa Bonheur	"Washington," Stuart
"Madonna of the Chair," Raphael	"The Blacksmith," Frere
"A Morning Landscape," Corot	"Return from the Farm," Troyon
"Sir Gallahad," Watts	"Harvest Moon," Mason
"Can't You Talk?" Holmes	"Caritas," Abbott Thayer
"Escaped Cow," Dupre	"Feeding Her Birds," Millet

These pictures tell the story of happy animal and child life, of vigorous action, of mother love, and love of Nature.

Since the inauguration of this movement there are no longer found on the walls of our schoolrooms advertising cards, chromos, faded prints of authors, tissue-paper flowers, pictures of military heroes, and battles on land and sea, or even classic ruins of a "dead" past. No unframed pictures are allowed on the walls of schoolrooms, and to guard against overdecoration less than eight wall pictures are suggested. Within the last ten years thousands of dollars have been expended in indoor art and the money thus expended was raised principally through the activity of teachers and patrons by means of entertainments given by school children. Spiritualization through environment is a potent factor in rural uplift.

b) The publication of a monthly bulletin devoted chiefly to glorifying the constructive uplift work of teachers, patrons, and directors.

Ten numbers, covering the school year, of a thousand copies each, are forwarded free to every teacher, director, and interested patron. This bulletin, varying from 12 to 24 pages, with no advertising matter, is in fact the clearing-house of information of all educational activities within the county. The front-line school districts are kept constantly in the limelight. This local booster journal is no mean factor in stimulating school activities.

i) Schools as social centers. A beginning has been made in the county whereby schoolhouses have been used as social centers principally through the organization of school and home associations. There is no reason why country schoolhouses should not be used more and more for all sorts of social activity, instruction, and amusement. The idle moments of a schoolhouse, whether in the city or country, are a social

waste. They should be made to yield a larger service to society. Every schoolhouse, city or country, more or less, can be made a triple social center as follows:

A teaching center.—Kindergarten; elementary high school; continuation, commercial, trade, and technical; immigrant (adult), English, arithmetic; defective, crippled, deaf, dumb, blind, tubercular, anaemic.

A recreation center.—Organized play, team, gymnastic, athletic, folk-dancing; evening recreation classes, clubs, study, games, dramatics, music (piano, orchestra, vocal, etc.), baths, luncheons, holiday celebrations, native celebrations, marksmanship, boy scouts, white wings.

A civic and health center.—School city, town hall, people's forum, debate, community interests, public officers' reports, children's district court, mothers' club, parents' association, art exhibit, traveling libraries, humane society, employees' co-operation, sanitation, medical supervision, sex hygiene, visiting nurse, civic festivals, day nurseries.

j) A rural-school survey. In co-operation with the Bureau of Education at Washington, D.C., all arrangements have been made for an inventory in the fall of the county's rural schools and social forces and assets, calculated to acquire accurate information and to increase still further interest by teachers and patrons in the schools and social conditions of the county and thus produce better communities. This first-hand rural research will afford a most intensive and thorough study of rural conditions, and its conclusions will be published in a manual.

According to latest statistics, the urban population of Berks County increased from 49.5 to 54 per cent. This makes a 4.5 per cent increase as compared with a general ratio in the entire state of 5.7 per cent. In other words, country people elsewhere in Pennsylvania are moving to cities faster than in Berks County.

The city of Reading was greatly disappointed in not reaching the desired goal of 100,000 population—the ratio of increase of the city falling to 21.9 per cent. There is every reason to believe that redirection of education in rural Berks County is an important factor in checking the movement of population to its city. This redirection of rural education also now sends five boys to technical college while sending one to classical college. The world needs few scholars, but many bread-winners.

SAMPLES OF TWO BLANKS USED IN BERKS COUNTY

APPLICATION FOR A DIPLOMA FOR THE STANDARD ONE-ROOM SCHOOL

District.....
Name of school.....

This Diploma can only be obtained by the hearty co-operation of the Teacher and the School Board. The Teacher, together with the Secretary of the School Board, is to answer *each* question carefully, and if the School is found to meet all the requirements on the points noted, a diploma will be granted as a testimonial of the fact. This diploma becomes the property of the School and should be framed and hung in the room. This application, after all the questions have been properly answered, must be signed by both the Teacher and the Secretary of the School Board, and will be filed in the Office of the County Superintendent, together with sketches of the teachers.

A list of schools which have received diplomas will be published from time to time in the Public School Bulletin as well as in the local papers. In course of time a pamphlet will be issued, showing what has been accomplished by the schools in bringing about better school conditions for the country children. The shortcomings and deficiencies may take some time to rectify, but they should be brought up to the standard as indicated as soon as possible.

The country school can be made a vital force in the solution of the problem of country life. The problem of country life is the problem of more complete living, the enrichment of the life of the individual.

The right kind of a country school taught by a teacher who is in sympathy with all that is richest and best in country life will give children the finer ideals, and in a generation we will have a race of people who will choose to remain in the country. And they will find pleasure and profit in doing so. There is no reason why the physical condition of the country school in this county should not be equal to the best farm house in the county.

This application should be forwarded to the County Superintendent whenever all the requirements are complied with. There is no reason why every one of the 350 one-room schools in Berks should not be standardized.

Will you help to make the one-room schools in Berks the best in the U.S.?

GROUNDS

1. Are there thriving shade trees?

N.B.—Under the Code School Boards shall provide and maintain a proper number of shade trees.

2. Is there ample playground?

N.B.—An acre of ground should be secured for every rural schoolhouse; and, if two acres can be obtained, it will be so much better.

The school grounds and buildings should be used for social and recreation purposes. Playground apparatus should be provided.

3. Are the grounds in a neat, proper, and sanitary condition?

A. Waterclosets

1. Are there two waterclosets, and are they at least twenty-five feet apart?
2. If less than twenty-five feet apart, are the approaches or walks thereto separated by a closed partition wall or fence, not less than seven feet high?
3. Are the *entrances* to waterclosets outside the school building properly screened? The new code makes this mandatory.

N B.—Place screens on two sides of the building. Plant hardy perennial vines against the screens and train them so as to cover the entire structure.

4. Are they kept clean, comfortable, and sanitary, or are they dismal, dirty, dingy, disagreeable and disgraceful, devil-devised dens, with sin-scratched walls and sin-producing suggestions?

5. Is their condition repulsive to the fine tastes and pure moral tone of the child?

6. Are they what they should be, or are they "seminaries of sin," whose vicious, venomous, voiceless, vice-producing virus is sufficient to annul the whole moral influence of the best of Teachers?

N.B.—In erecting new buildings, indoor sanitariums and closets should be provided.

Under the new code there must be at least two closets for each building where both sexes are in attendance. Closets must be at least twenty-five feet apart. If less, they must be separated by a closed partition wall or fence, not less than seven feet high.

Boards shall, not less than ten days prior to the opening of each annual school term, and oftener if necessary, have all closets properly cleaned and disinfected by the use of fresh dry slacked lime or other proper disinfecting material.

Closets near streams should have cement vaults not too deep and so arranged as to remove readily all excrement and waste matter.

All privies should be suitably constructed and painted inside and outside.

Rough sanding the interior will prevent obscene writings and drawings.

B. Flagstaff

Is there a flagstaff and the necessary appliances therefor upon or near the school building?

N B.—Under the code, Boards shall, where they are not otherwise provided, purchase a U. S. flagstaff and the necessary appliances therefor, and shall display said flag upon or near each school building in clement weather, during school hours, and at such times as the Boards may determine.

C. Fuel House

Is the fuel house convenient and in good condition?

N B.—It is best to have all fuel in the cellar of the building. Dilapidated coal bins are an eyesore.

D. Drinking Water

Is there a sufficient supply of good, pure drinking water in each district?

N B.—Earthen water jars with spigot and cover are suggested as a covered water receptacle for the schoolroom.

Teachers should insist on each child having an individual drinking vessel.

An artesian well should be found on each ground where the supply of water is not readily obtained. Best of all install sanitary bubbler fountains now on the market.

SCHOOLHOUSE

1. Does the room have at least fifteen square feet of floor space for each pupil?

2. Is it painted and in good repair?

N B.—The porch floors and steps should be of cement in order to be most economical to the taxpayers

A. Lighting

1. Is the light admitted from the left and rear?

N B.—It is illegal to admit light from the front of the seated pupils Bilateral lighting is legal

2. Does the total light area equal at least 20 per centum of floor space?

N B.—Protecting cellar and door transoms of glass with wire screening of small mesh is a saving of money

B. Ventilating

1. Is there at least 200 cubic feet of air space per pupil?

N B.—Windows being the only means of ventilation shall admit of ready adjustment both at the top and bottom

A ventilating device to protect pupils from currents of cold air is a legal requirement

Costly devices are not necessary It is best to combine heating with ventilating

A thermometer is a legal requirement for every schoolroom or recitation room Use good thermometers

Every schoolroom shall not have less than 200 cubic feet of air space per pupil, and every school building more than one story high shall supply each room with fresh air at the rate of not less than 30 cubic feet per minute for each pupil

The temperature of rooms should not be less than 60° nor more than 68° Fahrenheit

C. Heating

1. Is the school provided with a sanitary room furnace?

2 Is the common heating stove, if any, inclosed in part with a shield or jacket made of galvanized iron?

N B.—An unjacketed stove is illegal In this age it is time to abolish the common heating stove altogether from schoolrooms and substitute cellar heat or sanitary room furnaces, combining a system of heating and ventilating.

D. Shutter Fastenings

1. Are there shutter fastenings on the shutters, or is the teacher compelled to invoke the aid of a friendly rail from a nearby fence to keep them quiet on a windy day?

N B.—The stronger the fastener the better.

E. Blackboards

1. Has the schoolroom an ample natural slate blackboard suitably placed?

N B.—A room without slate blackboards is now regarded a curiosity.

F. Decorations

1. Are the walls and ceiling suitably painted?

N.B.—A tinted kalsomine will cost but little, if any, more than the whitewash. Wallpaper should not be permitted.

2. Is there picture molding on the walls?

G. Floors

1. Are the floors in good condition?

N B —The best floors consist of blocks of wood, with asphalted joints, placed on a bed of cement

All cleaning of the floors should be done daily, at the close of the afternoon session, after all the pupils have left the building

FURNISHINGS AND SUPPLIES

1. Are the desks and seats adjusted to the children and properly placed?

N B —Single adjustable desks and seats are preferable Where not adjustable there should be at least three sizes of desks

2. Is the teacher supplied with a good desk and chair?

3. Are there recitation seats?

4. Are there shades upon the windows?

N B —Shades in pairs are preferable, that is, one at the top to draw downward, and one below to draw upward Remember that the springs in roller shades may wear out.

5. Is there a sufficiently large bookcase or wall closet to house the supplies and library books? Bookcases should be artistic.

6. Are there at least 50 readable books in the school library?

N B —Each township should appropriate at least \$10 to each school each year, to maintain the school library See State Course of Study for suggested list of books.

7. Is there a reading-table provided with papers, magazines, and periodicals?

N.B.—There should be at least one farm journal like *Farm and Fireside*, *The Country Gentleman*, *Country Life in America*, etc Among other periodicals are the *American Boy*, *Youth's Companion*, *St. Nicholas*, *World's Work*, *Literary Digest*.

8. Are the wall pictures well selected and well framed?

N.B.—Have no unframed pictures upon the walls. Casts, if any, should be well placed.

9. Is the school provided with a good thermometer?

N B —Boards can afford to pay at least \$1 for a good mercury thermometer.

10. Is the thermometer well placed?

11. Is there a waste-basket in the room?

12. Is the school supplied with a good clock?

N B —Clocks should be cleaned every year

13. Is the school provided with a globe?

N.B.—A globe costing less than \$3 will answer all purposes for one-room schools. A \$10 globe is a waste of money

14. Is the school provided with a set of outline maps in a roller case?

N.B.—The maps should not cost over \$25 for a full set.

15. Is there a sufficient supply of dictionaries?

N B.—Dictionaries over ten years old are out of date.

16. Is the school provided with all necessary supplies?

17. Is the school provided with all the necessary textbooks?

ORGANIZATION

1. Is the monthly report book well kept?
2. Is the textbook record accurately kept?
3. Does the teacher have in his possession last year's teacher's term report?

N.B.—Directors would do well not to pay the last monthly salary until such report is properly filled out

4. Is there a copy of the course of study as prepared by the Department of Public Instruction for reference?
5. Is this course of study closely followed?
6. Is the school supplied with a copy of the minimum requirements for admission into high school?
7. Are formal tests given to pupils preparing for township graduation?
8. Is there a definite program of study and another of recitation?

N.B.—An improperly arranged daily program means a fearful waste of time.

9. Is the school library used effectively?
10. Is the home reading of the children properly directed?
11. Does the teacher encourage children to take interest in industrial training?
12. Is the attendance regular?

N.B.—A certificate of award will be granted to each child attending every day in the term.

13. Is the play of children properly directed?

N.B.—Country children should play more.

14. Does the teacher have a list of pupils coming under the compulsory attendance law?

N.B.—Registration lists are obtained from secretaries and should be in hands of teachers before the school opens.

15. Is the compulsory attendance law strictly enforced?

THE TEACHER

1. Does the teacher receive a salary of at least fifty dollars per month?
2. Does the teacher hold at least a permanent certificate?

N.B.—College and normal diplomas are preferable.

3. Does he attend the county institute, local institute, and association meetings?

4. Does he read the books of the Berks County Teachers' Reading Union?

5. Does he subscribe for and read at least two good educational journals?

6. Does he try to create sentiment in his community in favor of consolidation and centralization of slimly attended schools, where social and physical conditions permit?

N.B.—A parents' association should be organized in every district to co-operate with the teacher to make the schoolhouse more of a community center.

7. Are you endeavoring to make the school a social center?

.....*Teacher*
 No. Secretary of School Board
 Filed.....

N.B.—This application was specially prepared for the schools of Berks County by Superintendent E. M. Rapp.

A SELF-GRADING CERTIFICATE OF SUCCESS

CAN YOU GIVE YOURSELF 100%?

FOR THE SCHOOL YEAR ENDING JUNE, 19—.

The Teacher, 100%

A. Personality, 20%

1. Physical: health, habits, industry, ability to do things, cleanliness, neatness of attire.
2. Mental: moral worth, habits, disposition, temperament, individuality, originality, power of initiative, self-control, sarcasm, sincerity of purpose, attitude toward children, ability to meet people.

B. As a Student, 15%

1. Lines of study pursued.
2. Lectures attended.
3. Vacation schools attended.

C. Professional Development, 15%

1. Problems of teaching studied.
2. Work in township institutes or teachers' meetings in cities and towns.
 - a) Preparation.
 - b) Presentation.
3. Attitude toward educational meetings.
 - a) Attendance.
 - b) Participation.
4. Lectures attended.
5. Vacation schools attended.

D. As an instructor 20%

1. Preparation.
 - a) Before coming to class.
 - b) Assignments.
 - c) Skill in bringing the pupils into the right conscious attitude for the new truth to be presented.
2. Presentation.
 - a) Knowledge of the mind of the pupil.
 - b) Knowledge of the matter to be presented.
 - c) Knowledge of ways of presentation.
 - d) Skill in presentation.
3. Comparison or interpretation based on children's experiences.
 - a) Skill in keeping the minds of all of the children centered on the new truth being presented, and upon their own experience that will help them interpret at the same time.
4. Generalization.
 - a) Skill in leading pupils to draw correct conclusions and to state them well.
5. Application.
 - a) Skill in making pupils realize the new truth as their own. Ability in leading pupils to discover that school problems are life problems.

E. Government 15%

1. Two ways.
 - a) Through the conscious use of rewards and punishments.
 - b) Through the inspiration of personality.
2. Two types of order.
 - a) Constrained, unnatural and dead.
 - b) Free, natural, and alive with the busy hum of industry that accompanies the understanding that each pupil is to do his work without disturbing his neighbors.

F. Community Interest 15%

1. As illustrated by—
 - a) Ability to keep pupils from withdrawing from school.
 - b) Ability to secure regularity in attendance.
2. As illustrated by—
 - a) Ability to send common-school graduates to high school.
 - b) Ability to send high-school graduates to higher institutions.
3. As illustrated by—
 - a) Care of school property, keeping records, and making reports.
 - b) Sanitary conditions, decorations, and neatness.
 - c) Ability to establish and maintain libraries and young people's reading circles.

- d) Co-operation with teachers, supervisors, and school officials in school plans, exhibits, and meetings.
- e) Part taken in the plans and affairs of the community.

Total Grade.

.....Teacher

At the end of the school year carefully mark the above schedule, and if you find that you fall below "50" quit teaching for the sake of the children, for your sake, and the sake of the State.

[Compliments of Superintendent E. M. Rapp.]

VII. SUPERVISION OF RURAL SCHOOLS FOR NEGROES

JACKSON DAVIS

State Supervisor of Rural Elementary Schools, Richmond, Va

In March, 1908, there sat around a table in the office of the Superintendent of Schools of Henrico County, Virginia, a group of men who had been invited by him to consider ways of improving the Negro schools of the county. A meeting of the Negro teachers had just been held, the first meeting called to give them aid and encouragement. Dr. H. B. Frissell, who was among the party, told of some extension work that had been done by Hampton Institute in sending out a young woman to visit the schools of Gloucester County, and to help the teachers adapt their work to the home life of the people. After considerable discussion the conference ended, but there was left a precipitate of definite ideas. One was that a trained Negro teacher would be very helpful to the other teachers, to visit their schools and encourage them, placing more definite plans of work before them. Another was that such a teacher might be secured who would introduce cooking, sewing, and in some way help to place the life of the average Negro home on a more satisfactory basis in the elemental virtues of good citizenship. The plan to engage such a teacher for the 23 Negro schools of the county seemed good to the group of trustees, but it was not felt that the county could afford experiments in Negro education. The Jeanes Fund for Negro Rural Schools had recently been established, and Dr. James H. Dillard was in charge of its administration. The situation was laid before him and he heartily approved the plan and agreed to pay the salary of the supervising industrial teacher.

The county was fortunate in securing for this work Virginia E. Randolph, who had taught a rural school in the county for thirteen years, and by her devoted and tireless efforts had transformed a shabby little schoolhouse into a neatly whitewashed, two-room building, with attractive grounds, which served as a school, Sunday school, and center of all good work for the neighborhood. In October, 1908, she set to work to visit the 23 Negro schools, meeting the people and teachers, and asking their co-operation. The patrons were invited to the schools

and organized into Improvement Leagues, and soon all the schools began to take on a different appearance. Simple repairs were made, floors and windows were regularly washed, stoves were polished, walks were laid off, and flowers set out in the yards. Regular periods were set aside for sewing, mat-making, cooking, and various kinds of work that were suggested by the materials at hand.

"HENRICO PLAN"

This was the origin of what Dr. Dillard called the "Henrico Plan" of industrial training and supervision of Negro schools, and he adopted this method very largely in administering the Jeanes Fund in the southern states. The supervising industrial teacher is appointed by the county superintendent, and works under his direction in as many of the rural schools as may be reached, the salary being paid by the Jeanes Fund. Where the teacher covers a large territory some provision is usually made by the local school boards to defray the traveling expenses of the teacher.

The work thus inaugurated has steadily grown, both in effectiveness and extent. It was carried on in 119 counties in the various southern states last year through the Jeanes Fund, in co-operation with county superintendents and school boards. In Virginia there were last year 17 supervising industrial teachers working in 18 counties. Five new counties have taken it up this year, one county paying one-half the salary of the industrial teacher, and another county paying the whole salary from local funds. Almost every county makes provision for traveling expenses.

In this paper I speak chiefly of work in Virginia which has come under my personal observation. Reports from teachers in the states farther south show that a change equally as great is being wrought there.

CONDITIONS

The conditions with which the supervising teacher has to work are discouraging. A very real difficulty to many is that the work is new and they do not know just what to do. Few definite instructions can be furnished as the conditions vary so greatly, from county to county, and from state to state. In Virginia, for example, in Henrico County, with a Negro population of one-third of the whole, with a network of trolleys and the progressive influence of a large city, where the farms

are small and the Negroes own little land other than their houses and lots, conditions are very different from those in Charles City, the adjoining county, which has not even a village within its borders, where the Negro population is two-thirds of the whole, where the farms are large and the lands sparsely settled, and 15 per cent of the land is owned by the Negro farmers. This, in turn, is very different from Lowndes County, Alabama, where the Negroes outnumber the whites ten to one, and where the type of farming is entirely different. Perhaps in one respect they all were alike. The schools were very poor, so inadequate to exert an appreciable influence for the betterment of industrial and rural conditions that a great many people and school officials seriously questioned the good of "educating" the Negro. The trouble with the Negro schools was that poorly trained teachers, in very crowded and insanitary buildings, were attempting to teach to the ungraded and unclassified assortment of boys and girls who came to them with the utmost irregularity, the knowledge contained in the textbooks of the course of study. It was not a matter of any wonder that the white people felt that the states were getting a very small return on the money invested in the maintenance of such schools.

That this attitude was the result of the absence of any definite constructive policy these supervising teachers have proven, and their work has done more than any other single cause to enlist the sympathy and co-operation of the white people of the South in Negro education.

Every community is glad to have the sources of disease removed; to see the character and moral habits of the laboring classes improved, so that they will strive for higher standards in their work, in their homes, and in their neighborhood life; and this is what one begins to see in the Negro population of the counties where this work has been introduced. It was inevitable that the forces working for the improvement of rural conditions in the South should have a marked effect on the life of the Negro, but these supervising teachers have been the means of bringing these forces more directly to bear on a section of the population that had been in the eddy of the stream of economic progress. Farm demonstration, the active efforts of the state boards of health in sanitation and the prevention of disease, the new life which has been breathed into the school systems of the southern states, following a constructive policy of consolidation, making possible rural high schools, graded schools, with better buildings, longer terms, and more adequate funds—in these

matters the progress of their white neighbors has furnished the inspiration of example to the Negroes, but there was necessary personal human sympathy and practical wisdom to put these forces into effect. It means much that the Negro is making comparative progress along these lines; it also means much that the white people of the rural South are coming to realize that improving the condition of the Negro, who is at the lowest scale of life in the southern social order, improves automatically the condition of every other man with whom that Negro comes in contact.

To bring the Negro rural schools of the South to any degree of efficiency, there was necessary, first, a stimulus of state aid or aids from outside sources used through the machinery of the state-school system which would enable different counties and school divisions to make a practical demonstration which would, in time, attract the attention of others; and in the second place, it was necessary to arouse the spirit of self-help among the Negroes; and third, this would in time bring about a more generous spirit on the part of local school boards with reference to the distribution of school funds. This is now being worked out under this method of supervision and industrial training. The stimulus and necessary funds have come from the Jeanes Foundation, which has been so judiciously applied to various counties in the southern states; the supervising teachers have aroused the spirit of self-help on the part of Negro citizens, and this spirit in turn is being met with a more generous response by the local school boards.

BETTER SCHOOL BUILDINGS AND LONGER TERMS

Under the direction of the supervising teacher, various Negro communities have been organized into school-improvement leagues, and they have provided much needed equipment in the way of desks, blackboards, and additional room. They are beginning to erect new buildings to take the place of the miserable shacks which have often served as school buildings. In almost every case the funds raised by these school-improvement leagues have been supplemented by money from the public funds, and in these ways the improvements are being provided. I visited, last February, with the supervising teacher in one of the counties of Virginia, a schoolhouse which consisted of one small room, perhaps 15 by 20 feet, with 10-foot pitch. The only furniture consisted of 14 old home-made double desks, and painted blackboards, much used and

worn out. There were two small windows on each side. The enrolment at this school was 72 pupils, with an average daily attendance of 40. How this number of pupils could crowd into this room was equally a mystery and a shame. The Improvement League had commenced work on an additional room and the school board had made an appropriation to supplement the efforts of the patrons, who besides contributing in money gave their labor to erect the added room. It is readily seen that a two-room building is inadequate for this number of pupils should they all attend, and perhaps it is well for the health of the community that the average daily attendance has been less than one-half the enrolment. Conditions here were somewhat worse than one usually sees, and yet I know of three other one-room schools, quite as crowded, in this county, but through the efforts of the supervising teacher they are each adding an extra room. One wonders what a teacher, in a schoolroom as crowded as each of these, can do with pupils who attend school only one-half or two-thirds of their time. It is unnecessary to add that the teaching is very poor, and that the influence of the unwholesome environment tends to undo the constructive work of the teacher. The supervising teachers give help to the teachers in these schools, showing them how to grade the pupils in some sort of way, but they are wisely giving most of their time trying to improve the conditions under which the teacher and pupils have to work.

In another county there was a school not so badly crowded, but with poor and irregular attendance. The supervising teacher organized a league to help the teachers make simple improvements and persuaded the patrons to send their children more regularly to school. Their work interested the county superintendent who induced the school board to double the capacity of the building and thus through their united efforts a most attractive building has been erected with proper lighting and heating. The league then painted the building and fenced in the grounds, and the pupils planted out flowers and laid off the yards and walks. The influence of this school with these improved conditions has been such as to make necessary a third room, which is now being erected by the joint efforts of the league and the school board; and a third teacher will soon be provided. The school is, therefore, reaching out more and more to all of the colored children within its district, and their training is becoming more and more adequate.

These examples could be multiplied. The term for the colored

schools is being lengthened in very much the same way. In the average county in Virginia the length of term of the schools for colored children is not over five months. The school-improvement league in many cases raises money to pay the salary of the teacher and extend the term from two weeks to two months. The local school boards are encouraging this, and in one county where the term has been regularly five months, the board agreed to extend the term for two weeks provided the leagues would extend it for an additional two weeks. Eighteen of the twenty schools in the county met this condition and thus had a six months' term. While the Negroes are thus contributing for a longer term for their schools out of their poverty, it must be remembered that school funds in the average county are far from adequate and that any increase in the absence of state aid must be very gradual. On the other hand, the fact that the Negro citizens pay for a part of the added month to the school term causes them to send their children regularly, and to give the school more earnest support than they otherwise would do.

THE TEACHING FORCE

Of the 2,300 colored teachers in the public schools of Virginia the great majority have had no training for their work. Except for about 80 graduates from the State Normal School at Petersburg, and perhaps 10 or 12 graduates of Hampton Institute, who take up work in Virginia each year, there are no teachers coming into the work with professional training. The colored high schools in a few of the cities and a few private schools of secondary grade in the state are doing much to supply the need, but few of these teachers drift into remote rural districts which have to depend on such teachers as they are able to secure locally. Usually these have had no other training beyond a one-room school and perhaps a few summer schools. The fact that more than one-third of the colored teachers in the state have been attending a summer school during the past few summers is encouraging. In most counties the teachers have been organized as a branch of the Negro Teachers' and School Improvement League of the state, and meet regularly once a month, taking up at each meeting a definite program. Such meetings are being encouraged by the division superintendents, and the supervising teacher is in many counties doing effective work in helping teachers adapt the course of study to the needs of their schools.

Few pupils remain in the one-room schools long enough to get

above the fifth grade. In Henrico County, for example, which has been having a nine months' term for colored schools for some years, there was only one Negro pupil in the entire county in the seventh grade last year. The county industrial school which was opened this year for pupils above the fourth grade, enrolled 64 pupils, and 10 of these are in the seventh grade. The mornings are devoted to academic work and the afternoons to industrial work. As graded schools are established having adequate facilities and from two to four teachers, pupils are remaining in school for a longer time. In these schools better trained teachers are secured, also longer terms. Under the state graded-school fund, which is distributed by the State Board of Education for the maintenance of two-, three-, and four-room schools erected and conducted on plans approved by the State Board of Education, this type of school is being greatly encouraged. Already a number have been erected, and the number will probably be doubled this year. A feature of the work in each of these schools is practical industrial training in addition to more thorough teaching of the regular branches. The usefulness of these schools in their respective communities is evidenced by the cordial support they are receiving from both the local school boards and the Negro citizens, and such schools will in time do much to supply a more capable force of teachers for the rural schools.

EXHIBITS, RESULTS

In most of the counties an exhibit is held at the close of each school year, of the various articles of industrial work made in the schools. The exhibit is usually held at the county seat or in the business center of the county, and some kind of a program is provided, and simple prizes are awarded. These exhibits have been of great importance in popularizing this type of education among the Negroes, in encouraging the Negro children, and in demonstrating to the white citizens the usefulness of this training.

There is usually held each year a meeting of the supervising industrial teachers in each state, at some convenient point. In Virginia for the past three years they have met at Hampton Institute at the time of the Farmers' Conference, bringing with them exhibits of the work from their respective counties. These exhibits have been of great value in improving the character of the work in each county and in stimulating

local interest. The teachers also find it much easier to talk about the different phases of their work when they have the opportunity of comparing the exhibits of the various counties.

The introduction of industrial work into the Negro schools has not always been easy. Many of the parents object to their children doing anything at school but study and recite from books. In many cases the preacher has publicly opposed it, but more often he has joined with the supervising teacher in her efforts for the schools. In one county, soon after the supervisor began work, this issue was raised and the preacher took up the cause and urged the people to contribute funds for better school buildings, for equipment and material for industrial work. In his exhortation he was attacked by members of his congregation who differed from him. The issue got into the local papers and became so warm that a vote was taken asking the preacher to resign. By this time, however, the white people realized the situation and the courage of the preacher, and they with his faithful followers prevailed on the congregation to withdraw their action. Today this preacher is a real leader in the county with the confidence of all classes. The colored schools have made great progress and the industrial classes are doing regular and effective work.

In other communities the opposition lasts longer. Recently I visited a school where the teacher is unable to have any regular day or period for industrial work, because if the parents know of it they will keep their children at home on these days. In another county the supervising teacher was speaking to a meeting of patrons in a school at night. In the course of her remarks she condemned the common dances and festivals which nearly always resulted in drinking and a cutting or shooting affray, and urged amusements of a different kind. This so enraged some of the young people that from the darkness outside a bottle of ink was thrown through the window at the teacher and its contents emptied on her dress. The court records showed that nearly all of the Negroes in the penitentiary or jail from that county were there as a result of "cutting and shooting at Negro fair."

These examples could be multiplied, showing the courage and devotion of the supervising teachers in their contact with the ignorant and prejudiced masses of their race.

SUMMARY

It will be seen from the tabulated statement showing definite results of the work of supervising teachers in Virginia during the term of 1911-12 that in the 18 counties there are 469 Negro schools, and that 299 of these were visited regularly by the 17 supervisors. The length of term ranged from 5 to 9 $\frac{3}{4}$ months, but an average of 6 months was maintained by reason of the fact that 121 schools with a short term extended the term for one month. There were 9 new buildings erected and 12 enlarged at a combined cost of \$6,268.15, which does not include labor and materials given; 12 schools were painted, 69 whitewashed, 37 sanitary outhouses were built, and 102 schools used individual drinking cups. There were 348 improvement leagues organized, and they raised for school improvement \$13,744 16.

The entire cost of supervision in these counties was less than \$7,000.00, so that these teachers have brought into the school funds twice the cost of their salaries and expenses. Nearly every school that was built or enlarged was the result of the efforts of the improvement leagues co-operating with the local school boards, which have dealt more liberally with the Negro schools since the Negroes have shown such a disposition to help themselves.

But these figures, as illuminating as they are, do not tell all the story. Back of this record of progress, there is a new spirit of self-help, a new interest in the home, in the farm, and in the country neighborhood, and it marks the beginning of a co-operative movement for improvement in other ways. The teaching has been stronger, the attendance has been more regular, and the work of the schools has been more practical than ever before.

Superintendent Coggin writes of the work in Charles City County as follows:

With reference to the work in Charles City, I can say that the County School Board in its last meeting said that the results were such that they could not think of giving it up. All the men are very much pleased and are heartily supporting it.

I can see here a new interest in home life and an effort is being generally made to make home comfortable and beautiful. Cleanliness and politeness with industry have been emphasized with good results. A new spirit is seen among the teachers and a more earnest effort is being made to make their work mean something to the community in which they teach. The work as it is being done here is encouraging to the entire citizenship.

WORK OF SUPERVISING INDUSTRIAL TEACHERS IN THE NEGRO SCHOOLS IN EIGHTEEN COUNTIES IN VIRGINIA—1911-1912

SUPERVISION OF RURAL SCHOOLS FOR NEGROES

105

	Number Negro Schools in County	Number Visited Regularly	Average Length of Term, Months	Number Schools Extending Term	Length of Exten- sion, Months	No. New Buildings Erected During Year	Cost of Same	No. Buildings En- larged During Year	Cost of Same	No. Buildings Painted During Year	No. Buildings Whitewashed During Year	No. Sanitary Outhouses Built During Year	No. Schools Using Individual Drinking Cups	No. Improvement Leagues in County	Money Raised by Negroes for Build- ings, Lengthening Terms, Equipment, and Improvements
Albemarle..	50	4	6	7	1	0	0	1	\$ 125.00	0	0	0	4	8	\$ 350.00
Alexandria...	5	5	9	0	0	0	0	0	0	0	0	0	4	5	238.35
Brunswick...	38	10	6	30	1	1	600.00	0	0	0	2	0	4	38	855.00
Caroline....	33	12	6	12	1	0	0	2	245.04	0	0	4	15	25	570.00
Charles City	14	10	6	11	1	1	1,500.00	0	0	0	7	3	8	10	1,146.15
Chesterfield..	28	10	6	3	1	0	0	0	0	1	5	4	8	15	370.98
Cumberland	20	16	6	17	1	0	0	0	0	1	11	10	8	20	606.45
Elizabeth City	8	8	7	1	1	0	0	0	0	0	5	3	2	8	155.00
Gloucester...	31	26	6	6	1	0	0	0	0	0	23	0	6	30	652.00
Henrico....	22	22	8	0	0	0	0	0	0	0	0	4	8	21	2,505.50
Isle of Wight	14	8	5	2	1	0	0	0	0	0	1	0	0	10	638.50
Lunenburg...	24	20	5	1	2	2	700.00	0	0	0	0	0	17	16	1,183.50
Mecklenburg	46	40	5	8	1	0	0	1	15.25	2	2	3	4	38	697.31
Nansemond	28	16	5	3	1	0	0	4	339.50	2	2	0	4	15	481.82
Northampton	24	24	6	8	1	2	1,500.00	0	0	2	1	2	0	14	900.00
Nottingham...	20	14	6	4	1	0	0	0	0	0	3	0	5	12	491.48
Prince Edward...	42	32	6	4	1	3	900.00	0	0	1	5	1	1	39	796.75
Sussex....	22	22	5	4	1-3	0	0	3	343.36	5	2	3	6	24	1,105.37
Total....	469	299	6	121	1	9	\$5,200.00	12	\$1,068.15	12	69	37	102	348	\$13,744.16

HOME GARDEN AND CANNING CLUBS

One of the most interesting developments of the work is the co-operation of the supervising industrial teacher with the farm demonstration agent in working during the summer months with clubs of girls who raise home gardens and can the vegetables and fruits of the gardens for winter use. This feature of the work was taken up in Virginia last year and four of the supervising teachers were employed during the summer months; this year eight were employed for the entire twelve months of the year. Under this plan, at the close of the school term, they organized Girls' Home Garden Clubs. They visited the girls in their homes, met them in groups, gave them practical instructions for their gardens, and taught canning, cooking, and sewing in the homes. In many ways the summer work of these teachers has proven of even greater value than their work with the schools, for they are touching directly the homes of the people and bringing about changes that are having a far-reaching effect. In the summer of 1911 this work was inaugurated in four counties and a fair start was made. The gardens were cultivated with varying success; many practical difficulties were encountered, but in all, the girls put up under the direction of the teacher, about one thousand glass jars of vegetables. The tabulated statement shows the work that was accomplished in three of these same counties and five additional counties during the summer of 1912.

A page from the report of one of the teachers indicates the character of the work:

During the month have put up 603 quarts of fruit and 68 quarts of vegetables—total 671. Have dried 12 pounds of apples.

During the season 769 quarts fruit have been put up and 68 quarts vegetables—total 837 quarts. The late bean and tomato crops are yet to be canned.

Two of the club girls—ages 11 and 14—made all the yeast and bread for their respective families. Another girl aged 12 years, but who is not strong enough to make bread for her very large family, supplies her own and her next neighbor's family with yeast.

In most homes the club girls are doing the entire canning for the family and some for outsiders.

The girls learned to do these things in our summer clubs. Their mothers are very much pleased to be thus relieved of these duties. Our clubs are never at a loss for place for next meeting. Invitations usually come two and three weeks ahead.

My trip through this county in 1912 was particularly interesting in enabling me to compare the work of this summer with last summer

SUMMER WORK OF SUPERVISING INDUSTRIAL TEACHERS

IN EIGHT COUNTIES OF VIRGINIA, APRIL-SEPTEMBER, 1912

County	No. Girls in Garden Clubs	No. Gardens Planted	No. Cared for Reasonably Well	No. Girls Planting Vegetables for Fall	No. Canning Demonstrations Given	No. Jars Put up by Girls	No. Jars Put up by Mothers.	No. Cooking Lessons Given	Other Work Done
Brunswick...	34	30	18	8	20	310	775	12	Had lessons in sewing each week with club girls.
Caroline... ..	53	39	25	1	15	213	92	9	Planted flowers. Held entertainments for school improvement.
Charles City...	22	17	15	3	12	656	1,252	7	Homes generally whitewashed. Cooking lessons given in five homes to mothers.
Chesterfield..	26	15	15	6	45	1,779	.	20	Besides the canning and cooking lessons, sewing, cutting and fitting, crocheting, drawn-work, and basketry were taught.
Cumberland....	17	24	17	3	17	327	30	6	Hints on housekeeping, personal neatness, and cleanliness were given to both cooking and canning clubs.
Elizabeth City.	44	24	10	16	15	165	.	6	Nearly every home visited whitewashed. Three neighborhoods gave entertainments to raise money for cooking outfits.
Gloucester.....	50	38	25	20	32	30	3,240	18	Lessons given in cooking, sewing, table manners, and serving meals.
Nottoway.....	21	15	15	10	16	466	617	8	Each girl fixed up her yard, planted flowers, and tried to make her home more attractive inside. Several girls raised poultry. Many homes whitewashed.
Total.....	267	202	140	67	172	3,946	6,006	86	

when it was first started, as I revisited some of the same homes. Most of the homes are on small plots varying from five to twenty-five acres, and they are neither painted nor whitewashed. The men work out on the so-called public work, or as farm hands. With poor dwellings to start with and a handicap of poverty, any improvements will necessarily be slow. Last year many of the gardens were allowed to grow up in weeds, or were destroyed by chickens or cows. In other words, the gardens were about as shiftless as the homes.

All the gardens are very much better cultivated this year, and I did not see a single one that had been neglected. The chickens were either kept out, or the garden was put far enough from the house not to be bothered by them. Practically every girl will have a garden for the late fall. Already they have put up 837 quarts, which is three times as much as they put up in the whole season last year.

I saw several homes that were rebuilt or enlarged, but as yet little or no whitewashing has been done. At one home that we visited the girl was absent, but her mother showed us a long row of jars of fruit and vegetables which she had put up, and then brought out some dried apples and vegetables which she had put up, under the teacher's directions. Then she brought out some that she herself had dried in the traditional way. Her daughter's work was in every way superior and she said that she was going to use the new method in the future.

A few days later I took a similar trip through Charles City County with the county superintendent and the supervising teacher. The Negroes in Charles City are more prosperous than in Chesterfield, and the homes that we visited were on average small farms. I was struck by the fact that practically every home was neatly whitewashed, together with many of the fences and outbuildings, and that everything about the homes seemed to be in good repair. We found back yards and back porches thoroughly clean. Superintendent Coggin told me that this had been very largely brought about by Mrs. Gray in the two years in which she had been working in the county. He said that Negro homes of this type used to be the exception, but that now they were the rule in this county. The gardens were mostly well fenced and cultivated. Mrs. Gray's services were very much in demand, not only by the girls but by their mothers who wanted to learn better ways of canning.

At one home that we visited a widow and several children were

living. The father had recently died of tuberculosis. During his sickness Mrs. Gray had visited the home and shown the mother the necessary precautions to take in order to prevent the infection of the rest of the family. By her help all the sanitary measures were carried out and the other members of the family are probably saved from the disease.

Malaria is more or less prevalent in Charles City, but it is being reduced each year. Many of the Negroes are screening their houses and digging deeper wells.

Oddly enough, our trip ended at the Negro cemetery, where there was a gathering to clean up the cemetery. It needed it; but the gathering was an example of neighborhood co-operation expressive of a general desire to clean up things and make the county a better place to live in as well as to die in.

It is impossible to estimate the helpfulness of the visits of these teachers to the homes of the Negroes, or their influence on the girls who belong to the Garden Clubs. The girls and some of the mothers are getting a kind of education that is having a marked effect upon their homes. It meant a great deal for Miss Jefferson to get the girls and their parents in Chesterfield to take the home garden seriously—to put it where the chickens would not destroy it, or put a good fence around it, then to cultivate it approximately near to exact directions. The good results have demonstrated that it pays to take care of the garden, and in learning to do this they are learning to put more thought and skill into what has been household drudgery, but what may become household art.

I have never seen more grateful appreciation than was shown to these teachers in the homes in which they have helped, except possibly that shown by the Negro farmer to the demonstrator who has helped him to double his corn crop.

It will be seen that some of the teachers during the summer do much of their work with the women in their counties. The following letter has come into my hands from the Women's Home Improvement Club, which was organized by the teacher in Gloucester County. It shows both the character of the work which has been done and the interest which they have put into it:

In early spring Mrs. Isabella Smith called us together and spoke of the many things we, as housekeepers, might accomplish toward improving our

homes, if we would organize as a club and start to work. The first suggestion was to look to the canning of vegetables and fruits. As an outcome we can safely say that more berries, vegetables, and fruits have been canned and more dried than ever before in this community, saying nothing of jellies and pickles.

A new inspiration has gone out from one housekeeper to another, and one seems to be vieing with the other as to who will have the greatest number to report. Now that the canning season is fairly over, we are turning our attention to handicrafts; some have started door mats, and some table mats, and some picture frames. We find a great deal of pleasure in our work and feel it a blessing to have one in our midst who is capable of instructing us in so many ways.

We ask an interest in your prayers that much success may attend our efforts. Taking God as our great leader. Done by order of the W.H.I. Club.

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